NATIONAL INSTITUTE OF SCIENCES OF INDIA - REPORT OF THE COUNCIL FOR THE YEAR ENDING 31.3.58 - New Delhi

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REPORT OF THE COUNCIL FOR THE YEAR ENDING 31-3-58

NEW DELHI

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NATIONAL INSTITUTE OF SCIENCES OF INDIA

(Registered under the Societies Registration Act XXI of 1860)

ANNUAL REPORT FOR THE YEAR ENDING 31st March, 1958

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The Council of the National Institute of Sciences of India has the pleasure in presenting the following report of the general concerns of the Institute for the year 1957-58, in accordance with the provisions of Rule 43(f) of the Rules of the National Institute.

1. MEMBERSHIP

1·1. The number of Fellows on the roll of the Institute at the beginning of the year was 309 Ordinary Fellows and 45 Honorary Fellows. Fifteen Ordinary Fellows and one Honorary Fellow were elected during this year. Four Ordinary and two Honorary Fellows died during the year. The total number at the end of the year 1957-58 was 320 Ordinary Fellows (against a limit of 350) and 44 Honorary Fellows (against a limit of 50). A complete list of the Fellows will be found in Appendix I.

2. ELECTION OF FELLOWS

2·1. The following new Fellows were elected during the year 1957-58 :

Ordinary Fellows :

1. Sri Salim Ali (Bombay)
2. Dr. T. Banerjee (Jamshedpur)
3. Dr. J. V. Bhat (Bangalore)
4. Dr. N. N. Das Gupta (Calcutta)
5. Dr. S. N. Das Gupta (Lucknow)
6. Sri D. Lahiri (Calcutta)
7. Dr. V. S. Mangalik (Lucknow)

8. Sri S. R. Mehra (New Delhi)
9. Dr. S. Minakshisundaram (Waltair)
10. Dr. E. S. Narayanan (New Delhi)
11. Dr. V. N. Patwardhan (Coonoor)
12. Dr. B. Peters (Bombay)
13. Dr. B. Prasad (Patna)
14. Dr. M. Ray (Agra)
15. Dr. A. P. Subramaniam (Calcutta)

Honorary Fellow :

1. Dr. Hitoshi Kihara (Misima, Japan)

3. Obituaries

3·1. The Council reports with deep regret the loss suffered by the death of the following :

Ordinary Fellows :

1. Prof. B. K. Das
2. Prof. P. C. Mitter
3. Lt.-Col. C. L. Pasricha
4. Sri K. Sawhney

Honorary Fellows :

1. Prof. A. F. Blakeslee
2. Prof. Georg Tischler

4. Meetings (Including Symposia and Lectures)

4·1. Six Ordinary General Meetings were held during the year under report. Out of these, four Ordinary General Meetings were held in Bombay, Bangalore, New Delhi and Calcutta on May 3, 1957, August 2, 1957, December 6, 1957 and March 17, 1958 respectively. The Twenty-third Annual General Meeting was held at the Headquarters of the Institute, New Delhi, on October 7, 1957 and the Twenty-third Anniversary General Meeting was held at the New Senate Room of the University of Madras, on January 5, 1958. At the Annual General Meeting the President (Prof. P. C. Mahalanobis) gave a review of the work of the Institute during the past year and invited suggestions from Fellows regarding improvement of activities which could be discussed by the Council at a later meeting. At the Anniversary General Meeting the President delivered his Annual Address. The subject of his Address was "Science and National Planning."

4·2. Papers accepted for publication by the National Institute were read at these meetings. A list of these papers is given in Appendix VI.

4·3. A lecture was delivered by Prof. J. B. S. Haldane on "The Mathematical Theory of Natural Selection" on 17th March, 1958, in Calcutta.

Symposia

4·4. The following Symposia were held during the year under report:

May 1957: 'Radio Isotopes' at Bombay.
October 1957: 'Geophysical Research including Geodesy' at New Delhi.

4·5. The Symposium on "Radio Isotopes" was held in Bombay on May 3-4, 1957. A Steering Committee consisting of Dr. D. M. Bose, Dr. Subodh Mitra, Dr. B. P. Pal, Dr. Mata Prasad and Dr. V. R. Khanolkar (Convener) was appointed to organize it. The response received from the different invited institutions was encouraging. Twenty papers were contributed which dealt with various aspects of the rôle of radioactive isotopes, such as preparation of isotopes and measurements of radioactivity, application of radio isotopes in chemistry, biochemistry, agriculture, biology, medical research, industry and metallurgy.

4·6. The Symposium on "Geophysical Research including Geodesy" was held at New Delhi on October 7-8, 1957. A Steering Committee consisting of Dr. D. N. Wadia, Mr. P. Evans, Mr. B. L. Gulatee, Dr. P. K. Ghosh, Dr. M. S. Krishnan, and Prof. C. Mahadevan (Convener) was appointed to organize it. The Steering Committee invited all Universities and Institution in the country and also abroad to contribute papers and received a good response. Twenty six papers dealing with Geodesy, Geophysical exploration, Oceanography, Meteorology, ionosphere, radioactivity and nuclear geology were read and discussed at the Symposium.

4·7. The proceedings of these Symposia will be published in separate issues of Bulletins of the Institute.

4·8. The Annual General Meeting acclaimed the decision of the Council to request the President to send a message of congratulations to the President of the USSR Academy of Sciences on the successful launching of the earth satellite by USSR as a part of the scientific programme of the International Geophysical year.

4·9. At the Ordinary General Meeting held on March 17, 1958, attention was drawn to the recent announcement by the Prime Minister in the Lok Sabha regarding the scientific policy of the Government of India. There was a general satisfaction on the announcement of the scientific policy by the Prime Minister and the following resolution passed by the Council was accepted with acclamation :

> "The NISI welcomes the resolution of the Government of India on scientific policy endorsed by the Parliament and offers its services to the Government of India in regard to the implementation of the resolution in every way."

5. Council

5·1. The Council as constituted at the Twenty-second Anniversary General Meeting held on the 12th January, 1957, and which functioned until the new Council was elected on the 5th January, 1958, was as follows :

President :	Prof. P. C. Mahalanobis (Delhi)
Vice-President :	Prof. D. S. Kothari (Delhi)
	Prof. S. P. Agharkar (Poona)

Treasurer :	Prof. Ram Behari (Delhi)
Foreign Secretary :	Dr. B. Mukerji (Lucknow)
Secretaries :	Sri S. Basu (Delhi) Prof. P. Maheshwari (Delhi)
Editor of Publications :	Prof. R. C. Majumdar (Delhi)
Members of Council :	Dr. K. N. Bagchi (Calcutta) Prof. K. Banerjee (Allahabad) Dr. U. P. Basu (Calcutta) Dr. S. Bhagavantam (Hyderabad) Dr. K. R. Dixit (Ahmedabad) Dr. B. C. Guha (Calcutta) Dr. V. R. Khanolkar (Bombay) Prof. P. K. Kichlu (Delhi) Prof. R. S. Krishnan (Bangalore) Prof. C. Mahadevan (Waltair) Prof. S. K. Mitra (Calcutta) Dr. B. P. Pal (Delhi) Dr. Mata Prasad (Ujjain) Prof. B. Sanjiva Rao (Gauhati) Prof. B. R. Seshachar (Bangalore) Prof. N. R. Tawde (Dharwar)

Representatives of the Government of India and Co-operating Academies :—

Government of India :	Prof. M. S. Thacker (Delhi)
Asiatic Society :	Dr. G. P. Majumdar (Addl. Vice-President) (Calcutta) Sri Nirmal Kumar Bose (Addl. Member) (Calcutta)
National Academy of Sciences, India :	Prof. P. L. Srivastava (Addl. Vice-President) (Allahabad) Prof. P. S. Gill (Addl. Member) (Aligarh)
Indian Science Congress Association :	Prof. M. S. Thacker (Addl. Vice-President) (Delhi) Dr. B. N. Prasad (Addl. Member) (Allahabad)
Ex-Officio Members (Past-Presidents) :	Prof. S. N. Bose (1949-1950) (Santiniketan) Dr. K. S. Krishnan (1953-1954) (Delhi) Dr. A. C. Ukil (1955-1956) (Calcutta)

5·2. The Council, which was elected at the Twenty-third Anniversary General Meeting of the National Institute on the 5th, January, 1958, was as follows :

President :	Prof. P. C. Mahalanobis (Delhi)
Vice-Presidents :	Dr. V. R. Khanolkar (Bombay) Prof. D. S. Kothari (Delhi)
Treasurer :	Prof. Ram Behari (Delhi)
Foreign Secretary :	Dr. B. Mukerji (Lucknow)
Secretaries :	Sri S. Basu (Delhi) Prof. P. Maheshwari (Delhi)

Editor of Publications :	Prof. R. C. Majumdar (Delhi)
Members of Council :	Dr. K. N. Bagchi (Calcutta)
	Prof. K. Banerjee (Allahabad)
	Dr. U. P. Basu (Calcutta)
	Dr. K. R. Dixit (Ahmedabad)
	Prof. C. S. Ghosh (Bangalore)
	Prof. P. S. Gill (Aligarh)
	Prof. P. K. Kichlu (Delhi)
	Prof. C. Mahadevan (Waltair)
	Prof. G. P. Majumdar (Calcutta)
	Dr. B. P. Pal (Delhi)
	Dr. B. N. Prasad (Allahabad)
	Dr. Atma Ram (Calcutta)
	Prof. T. S. Sadasivan (Madras)
	Prof. B. Sanjiva Rao (Gauhati)
	Prof. B. R. Seshachar (Bangalore)
	Prof. N. R. Tawde (Dharwar)
	Dr. K. Venkataraman (Poona)
	Dr. W. D. West (Sagar)

Representatives of the Government of India and Co-operating Academies :—

Government of India :	Prof. M. S. Thacker (Delhi)
Asiatic Society :	Prof. S. K. Mitra (Addl. Vice-President) (Calcutta)
	Dr. B. C. Kundu (Addl. Member) (Calcutta)
National Academy of Sciences, India :	Prof. Shri Ranjan (Addl. Vice-President) (Allahabad)
	Prof. P. L. Srivastava (Addl. Member) (Allahabad)
Indian Science Congress Association :	Prof. M. S. Thacker (Addl. Vice-President) (Delhi)
	Dr. B. N. Prasad (Addl. Member) (Allahabad)
Ex-Officio Members (Past Presidents) :	Prof. S. N. Bose (1949-1950) (Santiniketan)
	Dr. K. S. Krishnan (1953-1954) (Delhi)
	Dr. A. C. Ukil (1955-1956) (Calcutta)

5·3. Prof. G. P. Majumdar was appointed by the Council as Joint Editor of Publications.

5·4. The Council held 6 meetings. Some of the important resolutions of the Council are given in Appendix III. At these meetings the Council took notice of and gave necessary directions for the various activities of the Institute pertaining to all spheres of its work, e.g.. administration, Research Fellowship, Publications, development of science, etc. Particular mention is made of the following :

Institution of Gold Medals in the names of Prof. M. N. Saha, Dr. S. S. Bhatnagar and Dr. S. L. Hora:

5·5. The Council at its meeting held on August 2, 1957, decided to institute three Memorial Gold Medals and passed the following resolution :—

> "In memory of three of our illustrious past-Presidents, who by their outstanding scientific contributions and dedication to the cause and progress of science in the country have provided an example to scientists, the Council of the National Institute of Sciences of India resolved that three gold medals

from its own funds be instituted and these be called (i) the Meghnad Saha Gold Medal, (ii) the Shanti Swarup Bhatnagar Gold Medal, and (iii) the Sunder Lal Hora Gold Medal.

Each award be made once every three years or at such intervals as the Council may decide from time to time. The Saha Medal shall be awarded for outstanding work in theoretical physical sciences, the Bhatnagar Medal for outstanding work in applied sciences and the Hora Medal for outstanding work in biological sciences. The awards shall be determined by the Council on the recommendations of three special committees (one for each medal) to be appointed by the Council.

It is further recommended that the first award shall be made in 1958."

5·6. A Committee consisting of the following members was appointed to frame regulations for the award of these gold medals :

The President
Prof. D. S. Kothari
Prof. S. K. Mitra
Prof. M. S. Thacker
Dr. A. C. Ukil

5·7. The Council during the year took several significant steps in regard to various activities of the Institute, and appointed a number of small Committees to go into them.

Research Fellowships :

5·8. The Council had a very fairly detailed discussion regarding the need for a revision of the policy according to which Research Fellowships were granted with a view to ensuring the best utilization of the funds spent on these grants, and appointed the following Committee to review the position :—

The President
The Treasurer
The two Secretaries
Prof. K. R. Dixit
Prof. C. Mahadevan

Election of Ordinary Fellows :

5·9. The Council also felt necessary to review the procedure for the election of Ordinary Fellows and appointed the following Committee to review the existing rules and procedure in this respect and to recommend such changes as may be desirable :—

The President
The two Secretaries
The two immediate past Secretaries
The Treasurer
with power to co-opt.

As a result of the delibrations of this Committee and further discussions by the Council regulations were revised and adopted by the general body of Fellows. (Appendix V).

Utilization of the opportunity of visits of eminent foreign scientists :

5·10. On a question regarding utilizing to the best advantage the visits of eminent foreign scientists who pass through India and might be available during their assignments in neighbouring countries, the Council agreed in principle to arrange invitations to them for taking part in discussions organised for the benefit of research workers in this country, in so far as such arrangements could be made.

National Development :

5·11. On a proposal by the President the Council appointed a Standing Committee with the object of organizing in different parts of the country group discussions on problems of national development. This Committee consists of the President and the two Secretaries together with scientists resident in the different localities and includes Prof. M. S. Thacker, Dr. K. S. Krishnan, Dr. B. P. Pal and Dr. C. G. Pandit from Delhi; Dr. V. R. Khanolkar and Dr. K. R. Dixit from Bombay ; Dr. R. S. Krishnan from Bangalore ; Dr. B. C. Guha, Dr. U. P. Basu, Dr. D.M. Bose and Dr. A.C. Ukil from Calcutta ; and Prof. P.S. Gill from Aligarh. The Committee would have power to co-opt other members as and when necessary.

5·12. A feature of the activities of the NISI during the year under review has been a series of informal and zonal meetings of the Fellows held at Delhi and Calcutta, at which general questions regarding the functions and responsibilities of the Institute were discussed at great length. In the course of these discussions as well as during the deliberations ot several meetings of the Council in Bombay, Bangalore, Delhi and Madras, many ideas and proposals had emerged. The Council therefore decided to hold a more representative meeting for their discussion, which was held in Calcutta on 17th March 1958 at which, besides the Council Members, all Fellows who were present at Calcutta on that day were invited.

The Calcutta meeting, which was very well attended, took up a very thorough discussion of the ideas and expressed the view that a stage had come for arranging a discussion with a representative of the Government of India with a view to clarification of the relation between Government and the Institute. It was decided, therefore, that a special meeting of the Council should be convened in Delhi for this purpose. This meeting was convened at Delhi in April in cousultation with Prof. M. S. Thacker, Director General, Council of Scientific and Industrial Research. Some of the points which, in the light of the discussions at the March meeting at Calcutta, were put for consideration at this special meeting are given in Appendix VIII.

6. Committees

6·1. The various Standing Committees of the Institute are :

(1) Sectional Committees (eight in number)
(2) Finance Committee
(3) Research Fellowships Committee
(4) Grants Committee
(5) Standing Committee for Organization of Symposia
(6) Building Committee
(7) Library Committee
(8) Biological Board
(9) Board for Physical Sciences
(10) Standing Committee for History of Sciences of India.

6·2. The names of the members of these Committees are given in Appendix II.

7. Representation on Scientific Bodies

7·1. The following appointments of delegates to represent the Institute on various scientific bodies were made by the Council :

(1) Indian Association for the Cultivation of Science.

Dr. Mata Prasad and Prof. P. S. Gill were nominated to represent the National Institute on the Council of the Indian Association for the Cultivation of Science for the year 1957-58.

(2) Indian Standards Institution.

Prof. P. S. Gill continued as representative of the National Institute on the General Council of the Indian Standards Institution. Prof. R. P. Mitra continued to represent the Institute on the Chemical Division of the Indian Standards Institution. (Dr. B. Mukerji continued as alternative representative on the Chemical Division).

(3) Indian National Commission for co-operation with Unesco.

The Council decided to nominate the following as representatives on the Indian Nation Commission for Unesco :

The President
One of the Secretaries
One of the Fellows not necessarily a member of the Council to be nominated by the President.

(4) Indian Institute of Science, Bangalore.

The President of the NISI (Prof. P. C. Mahalanobis) and Dr. H. J. Bhabha continued to represent the NISI on the Council and Court respectively of the Indian Institute of Science.

(5) Indian Statistical Institute, Calcutta.

Dr. V. G. Panse continued as representative of the NISI on the Governing Body of the Research and Training School of the Indian Statistical Institute.

8. International Unions and Conferences

8·1. With the growth of sciences and technology in Asia and the Far East, it is most desirable that scientists in these countries participate more fully in international scientific activities. A development of interest to international co-operation in science is the growing number of international scientific and technical conferences which are being held in Asia and the Far East. A list of such conferences held in South Asia and a list of Fellows who attended various International Conferences held in different parts of the world during 1957-58 are given in Appendix VII.

9. Grants-in-Aid

Publications :

9·1. During the year under report, the Council made the following grants to the Scientific Societies for their publications :

		Rs.
Indian Science News Association, Calcutta	...	2,000
National Academy of Sciences, India, Allahabad	...	2,000
Current Science Association, Bangalore	...	2,000
Science Club, Calcutta	...	750
Indian Science Congress Association, Calcutta	...	1,000
Association of Scientific Workers of India, Kanpur	...	500
Indian Society of Agricultural Statistics, New Delhi	...	1,000
Calcutta Mathematical Society, Calcutta	...	1,000
Indian Mathematical Society, Madras	...	2,000
Institution of Chemists (India), Calcutta	...	1,450
Society of Biological Chemists, India, Bangalore	...	600
Indian Chemical Society, Calcutta	...	2,000
Indian Society of Soil Science, New Delhi	...	500
Indian Institute of Chemical Engineers, Jadavpur, Calcutta	...	500
Indian Geographical Society, Madras	...	500
Geological, Mining & Metallurgical Society of India, Calcutta	...	1,000
Mining, Geological & Metallurgical Institute of India, Calcutta	...	1,000
Indian Phytopathological Society, New Delhi	...	1,000
International Society of Plant Morphologists, Delhi	...	1,000
Indian Botanical Society, Banaras	...	2,000
Indian Society of Genetics & Plant Breeding, New Delhi	...	1,000
Entomological Society of India, New Delhi	...	1,500
Zoological Society of India. Calcutta	...	2,000
Helminthological Society of India, Calcutta	...	500
Indian Dairy Science Association, Bangalore	...	1,000
Indian Pharmaceutical Association, Bombay	...	1,000
All India Veterinary Association, Madras	...	500
Physiological Society of India, Calcutta	...	500
Indian Physical Society, Calcutta	...	2,000
Indian Psychological Association, Calcutta	...	500
Geographical Society of India, Calcutta	...	500
Indian Institute of Metals. Calcutta	...	500
Asiatic Society, Calcutta	...	1,250
India Society of Engineers, Calcutta	...	1,000
Institution of Telecommunication Engineers, New Delhi	...	500
Palaeontological Society of India, Lucknow	...	2,000

Recommendations for grants from Central Revenues :

9·2. The following learned societies were recommended for grants-in-aid from Central Revenues for amounts noted against each :

1957-58		Rs.
Science Club, Calcutta	...	5,000
Indian Society for History of Science, Calcutta	...	2,500
Current Science Association, Bangalore	...	5,000
Indian Mathematical Society, Madras	...	4,000

1957-58		Rs.
Indian Society of Soil Science. New Delhi	...	2,000
Palaeontological Society of India, Lucknow	...	2,000
Bombay Natural History Society, Bombay	...	10,000
1958-59		
Indian Physical Society, Calcutta	...	5,000
Indian Chemical Society, Calcutta	...	10,000
Indian Society of Soil Science, New Delhi	...	2,000
Institution of Chemists (India), Calcutta	...	6,000
Geographical Society of India. Calcutta	...	1,500
Indian Geographical Society, Madras	...	1,500
Mining, Geological & Metallurgical Institute of India, Calcutta	...	3,000
Indian Botanical Society, Banaras	...	9,000
International Society of Plant Morphologists, New Delhi	...	5,000
Entomological Society of India, New Delhi	...	1,000
Zoological Society of India, Calcutta	...	9,000
The Zoological Society, Calcutta	...	1,000
Association of Scientific Workers of India, Kanpur	...	5,000
National Academy of Sciences, India, Allahabad	...	27,000
Science Club, Calcutta	...	1,500
Calcutta Mathematical Society, Calcutta	...	9,000

The Council also recommended an additional grant of Rs 15,000/- for the publication of the Golden Jubilee Volume of the Calcutta Mathematical Society.

The Council also recommended a token grant of Rs. 1,000/- to the Aeronautical Society of India, New Delhi.

10. Research Fellowships

10·1. The following Research Fellows were appointed during the year 1957-58.

NIS Senior Research Fellowship :

(i) Appointed in May 1957 :

1. Dr. T. Pati for work on "Harmonic and Functional Analysis" at Allahabad University, Allahabad. (Did not join).

(ii) Appointed in August 1957 :

2. Dr. O. P. Vig for work on "Synthetic investigations in Terpenoids" at Panjab University. Hoshiarpur. (Joined on 1-7-57).
3. Dr. M. V. Bhat for work on "Synthesis of Aldesterone" at Indian Institute of Science, Bangalore. (Did not join).

NIS Junior Research Fellowship :

(i) Appointed in May 1957 :

1. Dr. R. Srinivasan for work on "Photoelastic effect in crystals" at Indian Institute of Science, Bangalore. (Joined on 1-7-57).
2. Dr. S. R. V. Rao for work on "Cytology of some Indian Ascidians" at Central College, Bangalore. (Joined on 21-10-57).

(ii) Appointed in August 1957 :

3. Dr. D. P. Chakraborty for work on "Survey of Coumarins from Indian plants" at Bose Institute, Calcutta. (Joined on 26-8-57).

4. Sri S K. Pavanaram for work on "Synthetic Analogues of Pachyrrhizon" at Andhra University, Waltair. (Joined on 1-9-57).

5. Sri M. G. Bapat for work on Analytical aspects of the Chemistry of rare elements" at Banaras Hindu University, Banaras. (Joined on 18-10-57)

6. Dr. V. S. Ramdas for work on "Studies in the Metabolic Interrelationship between the different regions of the germinating cereal grains" at Allahabad University, Allahabad. (Did not join).

7. Dr S. Suryanaranan for work on "Mechanism of resistance to airborne fungal pathogens with special reference to the 'blast' of rice" at University Botany Laboratory, Madras. (Joined on 23-8-57).

8. Dr. K. S. Bilgrami for work on "Physiological and pathological studies of some fungi causing leaf spot diseases of ornamental plants and fruit trees" at Allahabad University, Allahabad. (Joined on 1-9-57).

9. Sri P. K. Dey for work on "Studies of circulation in hypothermia with particular reference to blood volume changes, peripheral circulations and vascular reflexes" at Calcutta University, Calcutta. (Joined on 2-9-57).

10. Sri S. N. Bhatt for work on "Summability of Infinite series" at Allahabad University, Allahabad. (Joined on 1-10-57).

10·2. The following Research Fellows completed the Fellowships from the dates shown alongside :

NIS Junior Research Fellowships :

1. Dr. O. P. Vig—30-6-57. (He was given Senior Fellowship w.e.f. 1-7-57).

2. Dr. H. R. Chipalkatti—28-2-58 (completed 2 year term).

10·3. The following Research Fellowships were extended for the periods as shown alongside :

NIS Senior Research Fellowships :

Dr. O. P. Vig—3 months from 1-7-57.
Dr. A. Rahman—6 months from 30-6-57

ICI Research Fellowships:

Dr. S. P. Puri—(He was given extension but he did not avail of it).

10·4. The following Research Fellows resigned from the dates as shown alongside :

Senior :

Dr. O. P. Vig—1-10-57 (to join as a Lecturer in Chemistry Deptt., Punjab University, Hoshiarpur).

Dr. H. S. Hans—11-2-58 (to join as Reader in Aligarh University, Aligarh).

Dr. A. Rahman—31-1-58 (got a post of Research Fellow in the Tata Institute of Fundamental Research, Bombay).

Junior :

Dr. P. K. Kapur—1-10-57 (got scholarship from the French Government for training with M/S. Serete).

Sri S. Roy—4-3-58—(to join Post-doctorate Fellowship of the National Research Council of Canada).

Dr. C. Venkateswarlu—8-3-58—(to join as Asstt. Professor in Bihar Institute of Technology, Sindri).

Miss P. B. Padmavathi—10-9-57 (to join as a lecturer, Delhi University, Delhi).

Dr. T. Ramakrishnan—10-4-57 (to join as a lecturer in Pharmacology, I.I.S. Bangalore).

Dr. M. G. Bapat—10-2-58 (to join as lecturer at BHU).

I.C.I. :

Dr. S. P. Puri—31-1-58 (got Fellowship from the Bartol Research Foundation).

10·5. Summaries of final research reports of the Research Fellows who worked for more than a year and left the Fellowship are given in Appendix IV.

11. The Library

11·1. About 859 books have been added to the library during 1957-58. Their list is given in the Appendix IX.

11·2. A number of steel shelving racks has been added to accommodate the books and journals etc.

11·3. About 100 volumes have been got bound. More volumes are being prepared for binding.

11·4. Total number of journals and periodicals received in the library on exchange or subscription now stands at about 340. The list of journals is given in the Appendix X.

11·5. The following books were presented to the library during the year :

1. C.S.I.R.

The Wealth of India : Industrial products. Part IV, F-H, C.S.I.R., 1958.

2. C. S. I. R.
Cellulose research ; a Symposium. The Council 1958.

3. New York Academy of Sciences.
Cellular Biology ; Nucleic Acid and Viruses.
Special publication No. V, The Academy. 1957.

4. C.S.I.R.
The Wealth of India ; Raw Materials. Vol. IV.
F-G, The Council. 1956.

5. Hidy, Ralph W., and Hidy, M.E.
Pioneering in big business (History of the Standard Oil Co. 1882-1911). Harper. 1955.

6. Ball, Max W.
The fascinating Oil business. Bobbs-Merril. 1940.

7. Gibbs, George Sweet and Knowlton, E.H.
The resurgent years. History of Standard Oil Co., from 1911-1927. Harper, 1955

12. Publications

Proceedings :

12·1. The following issues of the *Proceedings* were published during the year under report :

Part A. (Physical Sciences).
Vol. 22, Nos. 5 and 6 (pp. 267-413). Vol. 23, Nos. 1-6 (pp. 1-566).

Part B. (Biological Sciences).
Vol. 22, Nos. 2, 3, 4, 5 and 6 (pp. 57-367).
Vol. 23, Nos. 1-2, 3-4, 5-6 (pp. 1-190).

Title page and Index to Vol. 22 were also published.

Transactions :

12·2. A paper by Dr. W. D. West on "The Petrology and petrogenesis of 48 flows of Deccan Trap penetrated by boring in West India, is in the press and will be issued in 1958-59.

N. I. S. Mathematical Tables :

12·3. "Tables of Partitions of Gaussian Integers" by M. S. Cheema and H. Gupta was published.

Bulletins :

12·4. The Bulletin (No. 9) containing the proceedings of the Symposium on "High Altitude Research" was published. The proceedings of the Symposia on

"Climate, Environment and Health", "Contact Catalysis", "Radio Isotopes" and "Geophysical Research including Geodesy" are in the press and expected to be published in 1958-59.

Progress of Science in India :

12·5. Sections for Geology and Botany have been published and the materials for the Sections Physiology and Mathematics are in the press.

It is mentioned here that Sections for Physics, Chemistry and Zoology were published previously. Sub-section for Anthropology under Section Zoology is in the proof stage and expected to be published in 1958-59. The Council of the Institute decided not to publish the Section 'Engineering Sciences' in the Progress of Science in India.

12·6. *General :*

(a) The Council decided that in future (i) a photograph together with a short sketch of life and work of a deceased Fellow be published in the *Proceedings* immediately after his demise, and (ii) a volume containing obituaries of all deceased Fellows of the Institute be published from time to time.

(b) In order to improve the technical get up of the publication of the Institute the Council adopted revision of instructions to authors of communications.

(c) The Council has also accepted the proposal for publishing a new series of Monographs on selected Scientific subjects which will contain reviews of developments in particular fields of Science. Specialists, who have spent years in the critical study and appraisal of work already done in particular lines will be invited individually or jointly, as the case may be, to prepare the monographs. Detailed Scheme for this is under preparation.

13. Finances and Institute Funds

13·1. During the year 1957-58 the Government of India sanctioned a recurring grant-in-aid of Rs. 3,50,000/- which was Rs. 10,000/- more than the grant received last year. The recurring grant-in-aid has been utilized towards expenditure on salaries, research fellowships, travelling expenses, library, publications of the Institute (Proceedings, Bulletins, etc.), rent of land and house tax, and contingencies, etc. The Calcutta University and Osmania University, as in previous years, donated Rs. 500/- and Rs. 300/- respectively. The grant from Osmania University was actually received after the close of the financial year. There was an excess of expenditure of Rs. 45,217.84 over the grant available from the Government of India which was met by taking a loan from the Temporary Reserve Fund. The matter is being taken up with the Government of India for sanctioning additional grant during 1958-59 to make up this deficit.

13·2. The details of various funds are given in the balance sheet (Appendix XII). An explanatory note on some of the major funds is given below :

(a) *Funding Account* :

This fund comprises donations received from public bodies, individuals, admission fees and compounding fees of the Fellows of the Institute. The amounts

received are invested separately and the interest accruing from these investments is utilized for general expenses of the Institute.

This account stands as under :—		Rs. nP.
Balance as on 31-3-57	...	60,590.03
Receipts during the year	...	1,050.00
		61,640.03

(Rs. 61,640.03 include donations Rs. 36,400.03, admission fees Rs. 14,048.00 and Compounding fees Rs. 11,192 00).

Investments :				Rs. nP.
4% loan 1960-70 F.V.	Rs.	17,600.00		
3% loan 1946 F.V.		29,000.00	...	44,789.24
State Bank of India Saving Bank Account			...	6,838.79
State Bank of India FixedDeposit Account			...	10,612.00

(b) *Chandrakala Hora Memorial Medal Endowment* :

Dr. S. L. Hora and Mrs. V. Hora endowed a sum of Rs. 3,000/- in 1945 in memory of their daughter for award of a medal quinquennially to the person who has made conspicuously important contribution to the development of fisheries in India during the five years preceding the year of award.

The present position of the Fund is as below :

		Rs. nP.
Balance as on 31-3-57	...	3,802.75
Interest during the year	...	98.00
		3,900.75

Investments:

		Rs. nP.
3% conversion loan 1946	...	3,000.00
State Bank of India Saving Bank	...	900.75
		3,900.75

(c) *General Fund* :

This Fund represents excess of income over expenditure against the general receipt and payments of the Institute. The present position of this fund is as below :

		Rs. nP.
Balance as on 31-3-1957	...	1,35,482.30
Add transfer from Income and Expenditure Account and Symposium Fund	...	53,597.16
		1,89,079.46
Less transfer to Income and Expenditure Account	...	6,171.15
		1,82,908.31

This Fund is mainly represented by fixed assets, viz. furniture and library books, etc.

(d) *I.C.I. (India) Research Fellowship Fund* :

This Fund represents savings from the contingent grants of Research Fellowships. Its present position is as below :

Balance as on 31-3-57	...	Rs.	3,837.11
Add transfer from Income & Expenditure Account	...		1,732.05
			5,569.16

(e) *Temporary Reserve Fund* :

This fund represents the saving effected from the I.C.I. Administration grant of Rs. 13,200/- received annually for Administration of I.C.I. Research Fellowship. The present position of this Fund is as below :

Balance as on 31-3-57	...	Rs.	95,805.11
Less transfer to Income & Expenditure Account	...		45,217.84
			50,587.27

(f) *Popularization of Science Fund* :

This fund was opened for popularization of science in India. The balance in this fund at the close of the year stood at Rs. 3,792/-.

(g) *Symposium Fund* :

This fund was created by transfer of a sum of Rs. 4,000/- from the General Fund to meet the expenditure on various symposia organized by the Institute. The balance to the credit of this fund at the close of the year Rs. 37.89 was transferred to the General Fund during the year as the contingency expenditure on Symposia is being met from the General Fund.

(h) *Employees' Provident Fund* :

The total amount in this fund at the close of the year stood at Rs. 30,272.71. This amount represents deductions from the salaries of the staff, contribution by the Institute and interest accrued from investments.

Investments :

Fixed Deposit maturing on 12-7-58	...	Rs.	10,612.00
,, ,, ,, on 12-7-58	...		10,302.00
,, ,, ,, on 22-7-58	...		5,000.00
State Bank of India Saving Bank Account	...		4,358.71
			30,272.71

(i) *Dr. S. S. Bhatnagar Memorial Fund* :

The total amount to the credit of this Fund was Rs. 5,366.25 at the close of the year 1957-58. This contribution has been received from individuals, societies and the Fellows of the Institute.

APPENDIX I

LIST OF FELLOWS

ORDINARY FELLOWS

[F--Foundation Fellows]

Year of election	Serial No.		Service on Council
1936	1.	†ABRAHAM, W.E.V., Maj.-Gen., A.R.C.S., M.Inst. P.T., Managing Director, Burmah Oil Co., Ltd., Kenkot Manor, Lechlade, Glos., England.	
F	2.	AGHARKAR, S. P., M.A., Ph.D., F.L.S., Director, Maharashtra Association for the Cultivation of Science, Law College, Poona 4.	Sec. 1935-1944; V.P. 1945, 1956-1957; Ad. V.P. 1946, 1953; Mem. 1947-1948, 1950-1952, 1954-1955.
1938	3.	AIYAR, R. GOPALA, M.A., L.T., M.Sc., 102 Lloyds Road, Gopalapuram, Cathedral P.O., Madras 6.	Ad. Mem. 1939-1940.
1958	4.	ALI, SALIM, Vice-President, Bombay Natural History Society; 33 Pali Hill, Bandra, Bombay 20.	
1957	5.	AMMAL, E. K. JANAKI, M.A., D.Sc., LL.D., F.L.S., Director, Central Botanical Laboratory, Botanical Survey of India, 10 Chatham Lines, Allahabad.	
1950	6.	†ANTIA, D. P., D.Sc., c/o National Carbon Co. (India) Ltd., Pollock House, 18/A Brabourne Road (post box No. 2170), Calcutta 1.	
1953	7.	†ANTIA, K. F., M.Sc. (Lond.), M.I.E., M.I. struct. E., F.P.W. Inst., "Rockside", 112 Walkeshwar Road, Malabar Hill, Bombay 6.	
1951	8.	ASUNDI, R. K., B.A., M.Sc., Ph.D. (Lond.), "Shri Sadan", Block 6, 16 Juhu Road, Santa Cruz, Bombay 23.	
1938	9.	AUDEN, J. B., M.A., Sc.D. (Cantab), F.A.S., 39 Cromwell Road, London S.W. 7, England.	
1950	10.	AULUCK, F. C., Ph.D., D.Sc., Professor of Physics, Delhi University, Delhi 8.	
F	11.	AWATI, P. R., B.A. (Cantab), D.I.C., I.E.S. (Retd.), 47/5 Prabhat Road, Poona 4.	Mem. 1944-1945.
F	12.	BAGCHEE, K., D.Sc., D.I.C., 'Nanda Deep' 63/A Rajpur Road, Dehra Dun.	Mem. 1943-1945.
1940	13.	BAGCHI, K. N., B.Sc., M.B., D.T.M., F.R.I.C., Principal, Calcutta National Medical College; Gulistan, 5 Ballygunge place, Calcutta 19.	Mem. 1942, 1947-1949, 1953-1955, 1957-, Ad. Mem. 1946; Trea. 1943-1945; Ad. V.P. 1951-1952.

Year of election	Serial No.		Service on Council
1955	14.	BAMBAH, R. P., M.A., Ph.D. (Cantab), Reader in Mathematics, Panjab University, Hoshiarpur.	
1939	15.	BANERJEE, K., D.Sc., Professor of Physics, Allahabad University, Allahabad.	Mem. 1957-
1952	16.	BANERJEE, S., M.Sc., M.B.B.S., D.Sc., Professor of Physiology, Presidency College, Calcutta 12.	
1958	17.	BANERJEE, T., Ph.D., D.Sc., F.R.I.C., F.I.C., F.I.M., Deputy Director, National Metallurgical Laboratory, Burma Mines P.O., Jamshedpur 7.	
F	18.	BANERJI, A. C., M.Sc., M.A., F.R.A.S., I.E.S., 8/3 Loudon Street, Calcutta 16.	Ad. Mem. 1935-1936, 1940; Ad. V.P. 1946-1947, 1952-1953 Mem. 1948; V.P. 1949-1950.
1945	19.	BANERJI, I., D.Sc., F.L.S., F.A.Sc., F.B.S , Head of the Department of Botany, Calcutta University ; 131 Harish Mukherji Road, Kalighat, Calcutta 26.	
F	20.	†BANERJI, S. K., D.Sc., F.R.M.S., 3 Ramani Chatterjee Road, R.B. Avenue P.O., Calcutta 29.	Mem. 1949-1947, 1949-1951, V.P. 1953-1954.
1954	21.	BASU, B. C., D.Sc., 22P Sreenath Mukherjee Lane, Paikpara, Calcutta 30.	
1941	22.	BASU, J. K., M.Sc., Ph.D. (Lond.), Director of Soil Conservation, Ministry of Food & Agriculture, Multi-Storeyed Building, Queen Victoria Road, New Delhi.	
1956	23.	BASU, J. N., Dr. Ing. (Berlin), Professor of Mechanical Engineering, Jadavpur University ; "Bani Vitan", 25 South End Park, Calcutta 29.	
1951	24.	BASU, K. P., D.Sc. (Dacca), Ph.D. (Munich), Special Officer, Scientific Research, Planning Commission, Udyog Bhavan, New Delhi 2.	
1944	25.	BASU, N. M., M.Sc., 63 Hindusthan Park, Ballygunge, Calcutta 29.	
1946	26.	BASU, S., M.Sc., Director-General of Observatories, Meteorological Office, Lodi Road, New Delhi.	Mem. 1948-1950 ; Sec. 1957-
1946	27.	BASU, U. P., D.Sc., Director, Bengal Immunity Research Institute; 23/3 Gariahat Road, Calcutta 19.	Ad. Mem. 1953-1955 ; Mem. 1956-
1941	28.	BEHARI, RAM, M.A. (Cantab), Ph.D., Sc.D. (Dublin), Professor and Head of the Department of Mathematics & Statistics, Delhi University, Delhi 8.	Trea. 1957-
1941	29.	BHABHA, H. J., D.Sc., F.R.S., Director, Tata Institute of Fundamental Research, Director, Atomic Energy Establishment, Trombay, Apollo Pier Road, Bombay ; Secretary to the Government of India, Department of Atomic Energy, and chairman Atomic Energy Commission.	Mem. 1944-1945 ; 1948-1949; 1951-1952; V.P. 1946-1947.

Year of election	Serial No.		Service on Council
1949	30.	BHADURI, J. L., D.Sc. (Edin.), F.A.S., F.Z.S.I., F.A.Z., Sir Nilratan Sircar Professor and Head of the Department of Zoology, Calcutta University, 35 Ballygunge Circular Road, Calcutta 19.	Ad. Mem. 1950-1951; Mem. 1952-1954.
1944	31.	BHADURI, P. N., Ph. D., F. R. M. S., F.R.H.S, F.L.S., Professor of Botany, Presidency College, Calcutta 12.	
1949	32.	BHAGAVANTAM, S., D.Sc., Director, Indian Institute of Science, Bangalore 3.	Mem. 1951-1953, 1956-1957.
1956	33.	BHAR, J. N., D.Sc. (Cal.), Sir Rashbehari Ghose Professor of Physics and Head of the Department of Radio Physics and Electronics, Calcutta University, 92 Upper Circular Road, Calcutta 9.	
1937	34.	†BHARADWAJA, YAJNAVALKYA, M.Sc., Ph.D. (Lond.), F.L.S., c/o Lt.-Col. K. Bharadwaja, E.M.E., 507 Army Base Workshops, E.M.E., P.O. E.S.D. (Machinery), Kankinara, 24 Parganas, West Bengal.	
1939	35.	†BHARUCHA, F. R, M.Sc., D.Sc., Director, Institute of Science, Mayo Road, Fort, Bombay.	
1958	36.	BHAT, J. V., Ph.D., D.Sc., Assistant Professor, Fermentation Technology Laboratory, Indian Institute of Science, Bangalore 3.	
1955	37.	BHATIA, M. L., Ph.D., D.Sc. (Panjab), Professor and Head of the Department of Zoology, Delhi University, Delhi 8.	
1950	38.	BHATNAGAR, P. L., D.Phil., D.Sc., Professor of Applied Mathematics, Indian Institute of Science, Bangalore 3.	
1956	39.	BHATTACHARYA, P., M.Sc., Ph.D. (Edin.), Head of the Division of Animal Genetics, Indian Veterinary Research Institute, Izatnagar.	
1954	40.	BHATTACHARYA. S. K., D.Sc., F.R.I.C., Professor and Head of the Department of Applied Chemistry, Indian Institute of Technology, Kharagpur.	
1948	41.	BHIMACHAR, B. S., D.Sc., Central Inland Fisheries Research Station, 66 Upper Circular Road, Calcutta 9.	
1950	42.	BISWAS, K., D.Sc., F.R.S.E., F.A.S., F.B.S., Director-in-charge, Medicinal Plants Schemes, Government of West Bengal ; P-19 Old Ballygunge Road, P.O. Ballygunge, Calcutta 19.	
1935	43.	BOMFORD, G., Brigadier, O.B.E., M.A., D.Sc. (Oxon.), F.G.S., Hainton Lodge, Sutton Courtenay, Berkshire England.	
1941	44.	†BOR, N. L., C.I.E., M.A., O.B.E., D.Sc., F.R.S.E., F.L.S., c/o Messrs. Lloyds Bank Ltd., 6 Pall Mall, London, S.W. 2.	

Year of election	Serial No.		Service on Council
1957	45.	Bose, A., D.Sc., Professor of Physics, Department of Magnetism, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32.	
F	46.	Bose, D. M., M.A., B.Sc., Ph.D., Director, Bose Institute, 93 Upper Circular Road, Calcutta 9.	Ad. Mem. 1942-1944, Ad. V.P. 1953, 1955-1956.
1950	47.	Bose, J. P., M.B., F.C.S., 'The Sanctuary', 41/4A Bagbazar Street, Calcutta 3.	
1938	48.	Bose, N. K., M.Sc., Ph.D., Comp.I.E. (Ind.), 40/7 Gariahat Road (South), Calcutta 31.	
1955	49.	Bose, Nirmal Kumar, M.Sc., Reader in Anthropo-geography, Calcutta University, 37A Bosepara Lane, Calcutta 3.	Ad. Mem. 1957-
1948	50.	Bose, P. C., B.Sc. (Glas.), Chief Engineer, Public Health Engineering, Government of West Bengal; New Secretariat Buildings (6th Floor), 1 Hastings Street, Calcutta 1.	
1944	51.	Bose, P. K., D.Sc., 99/5 Ballygunge Place, Calcutta 19.	
1942	52.	Bose, R. C., M.A., Professor, Institute of Mathematical Statistics, University of N. Carolina, Chapel Hill, N.C., U.S.A.	
F	53.	Bose, S. N., M.Sc., F.R.S., Vice-Chancellor, Visva Bharati, Santiniketan, West Bengal.	Ad. V. P. 1943; V.P. 1947-1948; Pres. 1949-1950*
1935	54.	Bose, S. R., M.A., D.Sc., F.R.S.E., Museum National D' Histoire Naturelle Laboratoire de Cryptogamie, 12 Rue de Buffon, Paris (5^{e}).	Mem. 1948-1956.
1953	55.	†Büchi, E. C., Ph.D., Tulpenstrasse 30, Zurich 51, Switzerland.	
1956	56.	Cadambe, V., M.Sc., M.S. (Cal. Tech.), A.F.I.Ae.S. (Lond.), F.I.M. (Lond.), M.I.Mech.E. (Lond.), A.F.I.Ae.S. (U.S.A.), M.I.E, M.Ae.S.I., M.I.I.M., M.I. Struct. E. (London), Director (Planning), Central Mechanical Engineering Research Institute, Sapru House, Barakhamba Road, New Delhi; No. 1 C-1 House, HumayunRoad, New Delhi.	
1949	57.	Chakrabarty, S. K., D.Sc., Head of the Department of Mathematics, Bengal Engineering College, Botanic Gardens P.O., Howrah.	
1949	58.	Chakravarti, D., D.Sc., Registrar, Calcutta University; 28-3, Sahanagar Road, Kalighat, Calcutta 26.	
1955	59.	Chakravarti, D. N., Lt.-Gen., M.B.B.S., D.T.M.H., D.B. (Lond.), Secretary, Department of Health and Director of Health Services, Government of West Bengal, Writers' Buildings, Calcutta 1.	
1956	60.	†Chakravarti, R. N., D.Sc., (Cal.), F.R.I.C., Professor of Chemistry, Calcutta School of Tropical Medicine, Chittaranjan Avenue, Calcutta 12.	

Year of election	Serial No.		Service on Council
1954	61.	CHANDRASEKHARAN, K., Ph.D., Professor of Mathematics, Tata Institute of Fundamental Research, Apollo Pier Road, Bombay.	
1948	62.	CHATTERJEE, S. C., D.Sc., Professor and Head of the Department of Geology, Science College, Patna University, Patna 5.	
1955	63.	CHATTERJE , S. D., D.Sc., (Cal.), Sen.Mem I.R.E. (U.S.A.), Professor of Physics, Jadavpur University; 91 Ballygunge Place, Calcutta 19.	
1951	64.	CHATTOPADHYAY, K. P., M.Sc., (Cantab), Professor and Head of the Department of Anthropology, University College of Science ; 2 Palm Place, Ballygunge, Calcutta 19.	
1950	65.	CHAUDHURY, R. N., M.B., M.R.C.P. (Edin.), T.D.D. (Wales), F.S.M.F., Director, School of Tropical Medicine, Chittaranjan Avenue, Calcutta 12.	
1935	66.	CHOPRA, B. N., D.Sc., F.N.A.Sc., F.L.S., 439 Mathura Road, Jangpura, New Delhi 14.	
F	67.	CHOPRA, R. N., M.D., Sc.D., F.A.S., F.R.C.P., Brevet-Col., I.M.S. (R), Honorary Scientific Adviser, Regional Research Laboratory, Koti Bagh, Srinagar ; (Canal Road, Jammu Tawi).	V. P. 1937-1938 Pres. 1939-1940;* Ad. V.P. 1948.
1938	68.	CHOWDHURY, J. K., M.Sc., D.Phil. (Berlin), 50/U Gorcha Road, Calcutta 19.	
1940	69.	CHOWDHURY, K. AHMAD, B.A., B.Sc., M.Sc., D.Sc., Professor of Botany, Aligarh University, Aligarh.	
F	70.	CHOWLA, S., M.A., Ph.D., Visiting Professor of Mathematics, University of Kansas, Lawrence, Kansas, U.S.A.	
1946	71.	COATES, J., A.R.S.M., F.G.S., Wildflower House, Shobdon Leominister, Herefordshire, England.	
1938	72.	†CROOKSHANK, H., C.I.E., B.A., B.A.I., D.Sc., c/o Grindlays Bank Ltd., 54 Parliament Street, London.	
1943	73.	DAS, A. K., M.Sc., D.Sc., F.R.A.S., Deputy Director-General of Observatories in India, Astrophysical Observatory, Kodaikanal, S. India.	
1951	74.	DAS GUPTA, C. R., M.B., D.T.M. (Cal.), 1/25 Prince Golam Mohammad Road, Kalighat, Calcutta 26.	
1958	75.	DAS GUPTA, N. N., Ph.D., Professor of Biophysics Institute of Nuclear Physics, Calcutta University ; 44 Hazra Road, Calcutta 19.	
1958	76.	DAS GUPTA, S. N., Ph.D., D.I.C., D.Sc., Professor and Head of the Department of Botany, University of Lucknow, Lucknow.	

Year of election	Serial No.		Service on Council
1948	77.	DASTUR, J. F., M.Sc., D.I.C., Scarsdale, Panday Road, Bombay.	
F	78.	DASTUR, R. H., M.Sc., 52 Mall, Mhow (M.B.).	
1938	79.	DATTA, S., D.Sc., F.R.S.E., M.R.C.V.S., D.T.V.M., Lt.-Col., Director of Veterinary Services and Animal Husbandry, West Bengal, 37 Belgachia Road, Calcutta 37.	
1957	80.	DEB, S., Dr. és Sc. (Sorbonne), Professor and Head of the Department of Geological Sciences, Jadavpur University, Jadavpur, Calcutta 32.	
1942	81.	DESAI, R. D., D.Sc. (Lond.), D.I.C., F.R.I.C., L. D. Arts College and M. G. Sciences Institute, Navarangpura, Ahmedabad 9.	
1952	82.	DESSAU, G., Dr. Ing. (Mining), ' Charge de Cours" Mineral Deposits, Geological Institute of the University, via S. Maria 31, Pisa, Italy.	
F	83.	DEY, B. B., D.Sc., F.R.I.C., I.E.S. (R.), 77 High Road. San Thome, Madras.	Mem. 1947-1949, 1951-1953, 1955-1956.
F	84.	†DHAR, N. R., D.Sc. (Lond. & Paris), F.R.I.C., F.N.A.Sc., F.M.F.A.A., I.E.S. (R.), Director, Sheila Dhar Institute of Soil Science, University of Allahabad, 2 D Beli Road, Allahabad.	Ad. V. P. 1951 ; Ad. Mem. 1950.
1941	85.	DIKSHIT, B. B., M.B.B.S. (Bombay), Ph.D. (Edin.), M.R.C.P. (Edin.), F.R.S. (Edin.), D.P.H. (Cal.), Director, All-India Institute of Medical Sciences, Safdarjang, New Delhi 3.	
1954	86.	DIXIT, K. R., Ph.D., 69, Marine Drive, Bombay 1.	Mem. 1956-
1957	87.	Doss, K. S. G., M.Sc., (Mysore), D.Sc. (Madras), F.R.I.C., F.Inst. P., Deputy Director i/c., Central Electrochemical Research Institute, Alagappa College P.O., Karaikudi, S. Rly.	
1935	88.	†DUTT, S. B., D.Sc., D.I.C., F.R.I.C., 2/9 Bungalow Road, Roop Nagar, Delhi 6.	Ad. Mem. 1938.
1948	89.	DUTTA, A. K., D.Sc., Mayurbhanj Professor of Physics, Utkal University, Ravenshaw College, Cuttack 3.	
1948	90.	DUTTA ROY, R. K., Dr. Ing., Chemist, Geological Survey of India, 27 Chowringhee Road, Calcutta 13.	
1943	91.	ELWIN, VERRIER, M.A., D.Sc. (Oxon.) F.A.S., Tribal Consultant, NEFA, Sridham, Nangthmai, Shillong.	Mem. 1946-1948, 1954-1955.
1957	92.	ESH, G. C., M.Sc., Ph.D. (Ohio.), F. Sigma XI (USA), Officer-in-charge, Dept. of Biochemistry and Nutrition, Bengal Immunity Research Institute, 39 Lower Circular Road, Calcutta 16.	

Year of election	Serial No.		Service on Council
F	93.	EVANS, P., M.A., F.G.S., 'Tipam', 30 Meadway, Berkhamsted, Herts, England.	
1955	94.	FINCH, G. I., F.R.S., Two Trees Farm House, Upper Heyford, Oxfordshire, U.K.	
1946	95.	GANAPATHI, K., D.Sc., Superintendent Research, Hindustan Antibiotics (Private) Ltd., Pimpri (near Poona).	
1955	96.	GANJU, P. N. M.Sc., Ph.D. (Lucknow), Ph.D. (Durham), A.M.I.Min.E., F.G.S., Professor of Geology, Muslim University, Aligarh.	
1935	97.	†GEE, E. R., M.A., F.G.S., Director, Geological Survey of Pakistan, Post Box No. 15, Quetta (West Pakistan).	
1950	98.	GHATAGE, V. M., D.Sc., D.Phil. (Gottingen), A.F.R.Ac.S. (Lond.), M.I.Ac. Sc. (U.S.A.), Chief Designer, Hindustan Aircraft Ltd., Bangalore.	
1942	99.	GHOSH, B. N., D.Sc. (Lond.), Professor of Chemistry, University College of Science, 92 Upper Circular Road, Calcutta 9.	
1955	100.	GHOSH, C. S., M.Sc. (Cal.), S.M. (M.I.T.), Mem. A.I.E.E., Professor of Electrical Engineering, Roorkee University, Roorkee, U.P.	Mem. 1958-
1936	101.	GHOSH, J., M.A., Ph.D., 9 Satyen Datta Road, Calcutta 29.	
F	102.	GHOSH, J. C., D.Sc., F.A.S., Member, Planning Commission, New Delhi.	Mem. 1935-1940; F. Sec. 1941-1946: Pres. 1943-1944*.
1941	103.	GHOSH, P. K., M.Sc., D.I.C., D.Sc. (Lond.), Atomic Energy Department, Central Secretariat, North Block, New Delhi.	
1954	104.	GHOSH, SATYESHWAR, D.Sc., Professor & Head of the Department of Chemistry, Allahabad University, Allahabad.	Ad. Mem. 1955-1956.
1951	105.	GHOSH, SUDDHODAN, D.Sc., Lecturer in Applied Mathematics, University College of Science, 92 Upper Circular Road, Calcutta 9.	
1945	106.	†GHOSH, SUDHAMOY, D.Sc., F.R.I.C., Emeritus Professor, Calcutta School of Tropical Medicine; 15A Justice Chunder Madhab Road, Calcutta 20.	
1955	107.	GHOSH, T. N., D.Sc. (Dacca), Research Officer, Department of Chemistry, Bengal Immunity Research Institute, 39 Lower Circular Road, Calcutta 16.	
1941	108.	GHURYE, G. S., M.A., Ph.D., Professor of Sociology, University of Bombay, Fuller Road, Bombay.	
1945	109.	†GILL, P. S., M S., Ph.D. (Chicago), F.A.P.S., Professor of Physics, Muslim University, Aligarh.	Mem. 1954-1956, 1958-A.d. Mem. 1957.

Year of election	Serial No.		Service on Council
1956	110.	GIRI, K. V., B.A., M.Sc., A.I.I.Sc., D.Sc., F.R.I.C., Professor of Biochemistry, Indian Institute of Science, Malleswaram, Bangalore 3.	
F	111.	GLENNIE, E. A., C.I.E., G.C.S.I., D.S.O., Brigadier, Seaton House, Shrublands Road, Berkhamsted, Herts, England.	Mem. 1946.
1953	112.	GOVINDASWAMY, M. V., M.A., B.Sc., M.B.B.S., D.P.M. (Eng.), F.A.Sc., Director, All-India Institute of Mental Health and ex-officio Superintendent, Mental Hospital, Bangalore 2.	
F	113.	†GRAVELY, F. H., D.Sc., 95 Northcourt Avenue, Reading, England.	Mem. 1935-1938, 1942-1943.
1951	114.	GREVAL, S. D. S., B.Sc., M.D., Ch.B., P.D.H., Lt.-Col., I.M.S. (R), 166 Lower Circular Road, Calcutta 14.	
1941	115.	GUHA, B. C., D.Sc., Professor of Applied Chemistry, Calcutta University ; 55/5 Manoharpukur Road, Calcutta 29.	Trea. 1946 (Jan.-July) Mem. 1943-1944, 1947-1948, 1950-1952, 1955-1957.
F	116.	GUHA, B. S., M.A., A.M., Ph.D., F.A.S., Director, Bihar Tribal Research Institute, Ranchi.	Ad. Mem. 1949, 1955 ; Trea 1938-1942; Mem. 1943-1944.
1935	117.	GUHA, P. C., D.Sc., P. 536, C.I.T. Scheme XLVII, Raja Basanta Roy Road Extension, Calcutta 29.	
1956	118.	GULATEE, B. L., M.A. (Cantab.), F.R.I.C.S., M.I.S., Glenthorne, Happy Valley, Mussoorie.	
1950	119.	GUPTA, HANSRAJ, Ph.D., Professor and Head of the Department of Mathematics, Punjab University, Hoshiarpur.	
1945	120.	GUPTA, J. C., M.B. (Cal.), 58 B Ritchi Road, Ballygunge, Calcutta 19.	
1951	121.	GUPTA, S., M.Sc., Professor of Physics, Indian Institute of Technology, Kharagpur.	
1948	122.	HEILIG, ROBERT, M.D., Consulting Physician, Jaipur H. O., Rajasthan.	
F	123.	HUSAIN, M. AFZAL, M.A., Vice-Chancellor, University of the Panjab, Senate Hall, Lahore, Pakistan.	Mem. 1935-1940 ; 1944-1946 ; Ad. V.P. 1941, 1947.
1957	124.	†HUZURBAZAR, V. S., M.A., Ph.D., (Cantab), F.S.S., Professor and Head of the Department of Mathematics and Statistics, University of Poona, Poona 7.	
1940	125.	ISHAQ, MOHAMMED, M.A., M.Sc., Ph.D., D.I.C., F.Inst.P., Pakistan Military Academy, Kakul, West Pakistan.	Mem. 1942-1943.
F	126.	IYENGAR, M. O. P., M.A., Ph.D., F.L.S., F.A.Sc., F.B.S., 100 Venkatarangam Pillai Street, Triplicane, Madras 5.	

Year of election	Serial No.		Service on Council
1951	127.	IYER, P. V. KRISHNA, M.A., D.Phil. (Oxon.), Senior Scientist, Defence Science Organization, N.P.L. Building, Hillside Road, New Delhi 12.	
1949	128.	JACOB, K., D.Sc., F.G.S., Superintending Geologist, Geological Survey of India, 27 Chowringhee, Calcutta 13.	
1954	129.	JHINGRAN, A. G , Ph.D., Geological Survey of India, 27 Chowringhee, Calcutta 13.	
1950	130.	JOB, T. J., D.Sc., F.Z.S.I., F.A.S., F.A.Z , Fisheries Officer, FAO of the United Nations, Viale delle, Termedi Caracalla, Rome (Italy).	
1956	131.	JOHRI, B. M., D.Sc , Reader in Botany, University of Delhi, Delhi 8.	
1938	132.	JOSHI, A. C., D.Sc., Vice-Chancellor, Panjab University, Chandigarh, Punjab.	Mem. 1949-1951, 1953-1955.
1945	133.	JOSHI, S. S., D.Sc. (Lond.),F.R.I.C., (Lond.), F.A.Sc., Principal, College of Science and Professor & Head of the Department of Chemistry, Banaras Hindu University, Varanasi 5.	
1946	134.	KADAM, B. S., Ph.D , Joint Director, Agriculture (Extension), Bombay State, Poona 1.	
F	135.	KAPUR, S. N., c/o Kinlab (Private) Ltd., 5 Marquis Street, Calcutta 16.	
1946	136.	KHANOLKAR, V. R., M.D (Lond.), Director, Indian Cancer Research Centre and Hon. Director of Laboratories, Tata Memorial Hospital, Parel, Bombay 12.	Mem. 1952-1954-1956-1957 ; V.P. 1958-
1944	137.	KHASTGIR, S. R., Ph.D., D.Sc., F.R.S.E., Department of Physics, Banaras Hindu University, Varanasi 5.	
1951	138.	KHOSLA, A. N., B.A. (Hons.), C.E., Dr. Eng. (Hon.), I.S.E. (Retd.), Vice-Chancellor, Roorkee University, Roorkee, U.P.	
1935	139.	KICHLU, P. K , D.Sc., Professor of Physics, Delhi University, Delhi 8.	Mem. 1957-
1954	140.	KILPADY, SRIPADRAO, M.Sc., F.G.S., University Professor and Head of the Department of Geology, Nagpur University, Amravati Road, Nagpur.	
1946	141.	†KOSAMBI, D. D., S.B.(Harvard), Professor of Mathematics, Tata Institute of Fundamental Research, Apollo Pier Road, Bombay 1.	
1936	142.	KOTHARI, D. S., M.Sc., Ph.D., Professor and Head of the Department of Physics, Delhi University, 5 University Road, Delhi 8.	Mem. 1942-1944, 1952,F.Sec.1945; Sec. 1946-1951 ; Trea. 1953-1956; V.P. 1957-

Year of election	Serial No.		Service on Council
1954	143.	KOTHAVALLA, Zal R., B.Sc. Ani. Hus. (Bom.), B.Sc. Agri. (Edin.), N.D.D. (Scot.), D.Sc., Retd. Director of Dairy Research and Dairy Development Adviser to Govt. of India, 8 Ali Askar Road, Bangalore 1.	
F	144.	KRISHNA, S., Ph.D., D.Sc., Scientific Liaison Officer for India in U.K., India House, Aldwych, London, W. C. 2.	Mem. 1948-1950; Govt. Rep. 1953.
F	145.	KRISHNAN, K. S., D.Sc., LL.D., F.R.S., For. Assoc. Nat. Acad. Sc. (U.S.A.), Director, National Physical Laboratory, New Delhi 12.	Mem. 1935-1938, 1947-1948; Mem.&Ad. V.P. 1949; Ad. V.P. 1941-1943; V.P. 1950-1951; Pres. 1953-1954;* Govt. Rep. 1955-
F	146.	KRISHNAN, K. V., M.B.B.S., L.R.C.P., D.Sc., c/o W.H.O., P.O. Box No. 5., Kabul, Afghanistan.	Ad. Mem. 1935-1939.
1935	147.	†KRISHNAN, M. S., A.R.C.S, Ph.D., D.I.C. Director, Indian School of Mines and Applied Geology, Dhanbad, Bihar.	Ad. Mem. 1943. Mem. 1939-1941; 1954-1956; Ad. V.P. 1956.
1950	148.	KRISHNAN, R. S., M.A., D.Sc. (Madras), Ph.D. (Cantab), F. Inst. P., F.A.Sc., Professor and Head of the Department of Physics, Indian Institute of Science, Bangalore 3.	Mem. 1955-1957.
1948	149.	KRISHNASWAMI, K. R., D.Sc., F.R.I.C., Professor of General Chemistry, Indian Institute of Science, Bangalore 3.	
1954	150.	KUMAR, L.S.S, M Sc., A.R.C.A., D.I.C.A., chief of Agricultural Education, Indian Council of Agricultural Research, Queen Victoria Road, New Delhi.	
1945	151.	KUNDU, B. C., Ph.D. (Leeds), F.L.S., Director, Jute Agricultural Research Institute, Indian Central Jute Committee, Barrackpore, West Bengal.	
1958	152.	LAHIRI, D. B., M.Sc., Head of the Design Division, Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta 35.	
1951	153.	LAL, K. B., Ph.D., Plant Protection Adviser to the Government of India, Directorate of Plant Protection, Quarantine and Storage; 4/19 Ajmerigate Extension, New Delhi.	
1936	154.	LAW, S. C, M.A., B.L., Ph.D., F.Z.S, M.B.O.U., 50 Kailas Bose Street, Calcutta.	
1940	155.	MADHAVA, K. B., M.A., A.I.A., 'Amrutha,' 130 Lloyds Road, Cathedral, P.O., Madras.	Ad. Mem. 1945-1946.
1949	156.	†MAHABALE, T. S., B.A., M.Sc., Ph.D., F.A.Sc. F.N.A.Sc., F.B.S., Professor and Head of the Department of Botany, University of Poona, Ganeshkhind, Poona 7.	

Year of election	Serial No.		Service on Council
1945	157.	MAHADEVAN, C., M.A., D.Sc., F.A.Sc., M.A.I.M.E., Head of the Department of Geology and Geophysics, Erskine College of Natural Sciences and Principal, Andhra University Colleges, Andhra University, Waltair.	Mem. 1952-1953, 1957-
F	158.	MAHAJANI, G. S., M.A., Ph.D., Member, Union Public Service Commission, Dholpur House, New Delhi.	
F	159.	MAHALANOBIS, P. C., M.A., B.Sc., D.Sc., F.R.S., Director, Indian Statistical Institute, 204 Barrackpore Trunk Road, Calcutta 35; Hony. Statistical Adviser to the Cabinet, Government of India, 8 King George's Avenue, New Delhi 2.	Ad. Mem. 1941-1943, 1947-1948; Mem. 1945-1946; Ad. V P. 1950-1951; F, Sec. 1952-1956; Pres. 1957-
1935	160.	MAHESHWARI, P., D.Sc., Professor and Head of the Department of Botany, Delhi University, Delhi 8.	Mem. 1956; Sec. 1957-
1940	161.	MAJUMDAR, D. N., M.A., Ph D., Professor and Head of the Department of Anthropology, Lucknow University, Lucknow.	
1943	162.	MAJUMDAR, G. P., M.Sc., Ph.D., F.A.Sc., 19 Ekdalia Place, Ballygunge, Calcutta 19.	Ad. Mem. 1956; Ad. V.P. 1957; Mem. 1958-
1941	163.	MAJUMDAR, R. C., Dr. Phil. Nat., Professor of Physics, Delhi University, Delhi 8.	Mem. 1950-1951; Sec. 1952-1956; Ed. 1957.
1946	164.	MALHOTRA, D. R., D.Sc., M.I. Chem. E., F.I.M., M.I.E. (India), Technical Manager and Chief Engineer, Sepulchre Bros. India, (Private) Ltd., Taj Bldgs., Dadabhoy Naoroji Road, Fort, Bombay 1.	Mem. 1954-1955.
1956	165.	MALURKAR, S. L., M.Sc. (Cantab), Director, Colaba and Alibag Observatories, Indian Meteorological Service, Colaba Observatory, Colaba, Bombay 5.	
1958	166.	MANGALIK, V. S., M.D., D.C.P., Professor and Head of the Department of Pathology & Bacteriology, King George's Medical College, Lucknow.	
F	167.	MEHRA, H. R., M.Sc., Ph.D., 33 Chatham Lines, Allahabad.	Ad. V. P. 1942-1943, 1945; Ad. Mem. 1944-1947; Mem. 1949-1950.
1952	168.	MEHRA, P. N., D.Sc., Professor and Head of the Department of Botany, Punjab University, c/o Khalsa College, Amritsar.	
1958	169.	MEHRA, S. R., C.E., M.Inst. C.E., M.I.E., Director, Central Road Research Institute, Delhi Mathura Road, P.O. C.R.R.I., New Delhi 20.	
1957	170.	MEHTA, S. M., B.A., M.Sc., A.R.I.C., F A. Sc., "Godambe Villa", 423 First Road, Khar, Bombay 21.	

Year of election	Serial No.		Service on Council
1956	171.	METRE, W. B., F.G.S. (Lond.), Senior Geologist, Assam Oil Co., Ltd., Digboi.	
1958	172.	MINAKSHISUNDARAM, S., M.A., D.Sc., Professor and Head of the Dept. of Mathematical Physics, Andhra University, Waltair.	
1955	173.	MISRA, R., M.Sc., Ph.D. (Leeds), F.N.A.Sc., Professor and Head of the Department of Botany, Banaras Hindu University, Varanasi 5.	
1949	174.	MITRA, H. K., M.Sc. (Cal.), Ph D. (Pittsburgh, U.S.A.), Refractories Engineer, Tata Iron & Steel Co., Ltd., 12A Road East, Jamshedpur.	
1949	175.	MITRA, K., M.B., D.P.H., D.T.M. & H., F.S.S. (Eng), Nutrition Adviser, Directorate General of Health Services (R.); C.I.T. Plot 114, Badan Roy Lane, Calcutta 10.	
1953	176.	MITRA, R. P., D.Sc., Professor of Chemistry, Delhi University, Delhi 8.	
1944	177.	MITRA, SUBODH, M.B. (Cal.), Dr. Med. (Berlin), F.R.C.S. (Edin.), F.R.C.O.G., F.A C.S., 4 Chowringhee Terrace, Calcutta 20.	
1941	178.	MITRA, S. C., M.A., Ph.D. (Leip.), University Professor and Head of the Department of Psychology, Calcutta University, 92 Upper Circular Road, Calcutta 9.	
F	179.	MITRA, S. K., D.Sc., F.R.S., Emeritus Professor of Physics, Calcutta University, Institute of Radio Physics and Electronics, 92 Upper Circular Road, Calcutta 9.	Mem. 1935-1939, 1947-1949, 1952-1954, 1956-1957; Ad. V.P. 1945, 1950, 1955, 1958- V.P. 1943-1944; Ad. Mem. 1940-1942.
1954	180.	MODAK, N. V., B.E., A.M.I.C.E., "Udyam", near Shivaji Park, Bombay 28.	
1948	181.	MOGHE, M.A., M.Sc., Ph.D., F.Z.S., F.A.Sc., 4 Canal Road, Ramdaspeth, Nagpur.	Mem. 1953-1955.
1943	182.	†MUKERJI, B., D.Sc., M.B., M.P.S., F.A.Ph.S., F.A.A.A.S., F.I.C., Director, Central Drug Research Institute, Chhattar Manzil Palace, Lucknow.	Ad. Mem. 1947, 1950-1951;Mem. 1948-1949, 1952-1953, 1956; V.P. 1954-1955;F.Sec 1957-
F	183.	MUKHERJEE, J. N., D.Sc., F.C.S., F.A.S., 10 Puran Chand Nahar Avenue, Calcutta 13.	Mem. 1935-1938; Ad. V. P. 1939-1940, 1952; V.P. 1941-1942, F. Sec. 1943-1944, 1947-1951; Ed. 1945-1946.
1953	184.	MUKHERJI, K. C., M.A., Lecturer in Psychology, Calcutta University; Government Quarters, Block A, Flat 10, Calcutta 14.	

Year of election	Serial No.		Service on Council
1955	185.	NAGAPPA, Y., M.Sc. (Mys.), Palaeontologist, Assam Oil Co., Ltd., Digboi.	
1957	186.	NAIR, K. R., Ph.D., D.Sc., Chief Research Officer, Statistical Branch, Forest Research Institute, New Forest P.O., Dehra Dun.	
1945	187.	NAIR, U. S., M.A., Ph.D. (Lond.), Head of the Department of Statistics, Kerala University, Trivandrum.	
1946	188.	NARAYANA, BASUDEVA, M.Sc., M.B , Ph.D., F.R.S.E., Sinha Library Road, Patna.	
1940	189.	NARAYANAMURTI, D., B.Sc. (Mys.), M.Sc. (Bom.), Dr. Ing. (Danzig), A.I I.Sc., F.R.I.C., F. Inst. P., M.I.Chem.E., Chief Research Officer, Composite Wood Branch, Forest Research Institute, New Forest, Dehra Dun.	
1958	190.	NARAYANAN, E. S., Ph.D., D.I.C., F.R.E.S., F.E.S.I., F.A.Sc., Head of the Division of Entomology, Indian Agricultural Research Institute, New Delhi 12 ; Principal, Central College of Agriculture, Dean, Faculty of Agriculture and Forestry, University of Delhi.	
1939	191.	NARLIKAR, V. V., B.Sc. (Bom.), M.A. (Cantab), F.R.A.S., Professor of Mathematics and Head of the Department, Banaras Hindu University, Varanasi 5.	Mem. 1942-1944.
1950	192.	NATH, M. C., D.Sc., F.R.I.C., F.I.C., Chitnavis Professor and Head of the University Department of Bio-chemistry, Nagpur University, Nagpur.	
1943	193.	NATH, RAJ, Ph.D., D.I.C., University Professor and Head of the Department of Geology, Banaras Hindu University, Varanasi 5.	
1940	194.	NATH, VISHWA, M.Sc., Ph.D., University Professor and Head of the Department of Zoology, Panjab University, Hoshiarpur.	
1947	195.	NEHRU, THE HON'BLE PANDIT JAWAHARLAL, Prime Minister of India, New Delhi.	
1957	196.	NIJHAWAN, B. R., Ph.D., F.I.M., Padma Shri, Director, National Metallurgical Laboratory, Jamshedpur 7.	
F	197.	†NORMAND, SIR CHARLES W. B., Kt., C.I.E., M.A , D.Sc., c/o Midland Bank, Gloucester Road, London, S.W. 7.	Mem. 1935-1940, 1944; V.P. 1941-1942.
1946	198.	PAL, B. P., M.Sc., Ph.D., (Cantab), F.L.S., F.B.S., Director, Indian Agricultural Research Institute, New Delhi 12.	Mem. 1951, 1957-Trea. 1952; Sec. 1953-56.
1956	199.	PAL, R. K., M.B. (Cal.), D.Sc. (Edin.), M.R.C.P., F.R.S.E., 5/4 Ballygunge Place, Calcutta 19.	

Year of election	Serial No.		Service on Council
1953	200.	PALIT, S. R., D.Sc., F.R.I.C., Professor and Head of the Department of Physical Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32.	
1939	201.	PANDIT, C. G., M.B.B.S., Ph.D., D.P.H., D.T.M., Director, Indian Council of Medical Research, C-II type Flat No. 16, Medical Enclave, near Safdarjang Hospital, New Delhi 3.	Govt. Rep. 1945, 1948-1952; Mem. 1948; Trea. 1949-1951.
1952	202.	†PANIKKAR, N. K., D.Sc., Fisheries Development Adviser, Ministry of Food and Agriculture, Multi-storeyed Building; Queen Victoria Road, New Delhi.	
1944	203.	PANJA, G, M.B. (Cal.), D.Bact. (Lond.), F.D.S. (Lond.), Professor Bactoriology and Pathology (Retd.), School of Tropical Medicine, Calcutta; P. 117 Vivekananda Road, Calcutta 6.	
1946	204.	PANSE, V. G., Ph.D., Statistical Adviser, Indian Council of Agricultural Research, New Delhi 12.	Mem. 1951-1952.
1937	205.	PARANJPE, G. R., M.Sc., A.I.I.Sc., O.B.E., I.E.S.(R.), 'Sudarshan', 1159 Sadashiv, Poona 2.	Mem. 1939-1942; 1949-1950.
F	206.	†PARANPJYE, R. P., D.Sc., D.Litt., Purushottam Ashram, Poona 4.	
F	207.	PARIJA, P., Padmabhusan, M.A. (Cantab), D.Sc., I.E.S. (R.), Vice-Chancellor, Utkal University; 10 Cantonment Road, Cuttack 1.	Mem. 1940-1943, 1947-1948, 1050, Ad. Mem. 1939; V.P. 1951-1952.
1949	208.	PARTHASARATHY, N., B.Sc.Ag., Ph.D. (Lond.), FAO Rice Expert, FAO Regional Office, Malliwan Mansions, Phra Atit Road, Bangkok, Thailand.	
1958	209.	PATWARDHAN, V. N., Ph.D., A.I.I.Sc., Director, Nutrition Research Laboratories, Indian Council of Medical Research, Post Box No. 3, Coonoor.	
1936	210.	†PERCIVAL, F. G., O B.E., Ph.D., F.G.S., Sadlers End, Haslemere, Surrey, England.	Mem. 1941-1943.
1958	211.	PETERS, B., Ph.D., Professor of Experimental Physics, Tata Institute of Fundamental Research, Apollo Pier Road, Bombay 1.	
1942	212.	PICHAMUTHU, C. S., Ph.D., D.Sc.(Glasgow)., F.R.S.E., F.G.S., Professor of Geology, University of Malaya, Cluny Road, Singapore, Malaya.	
1958	213.	PRASAD, B, D.Sc., Vice-Chancellor, Patna University, Patna.	
1936	214.	†PRASAD, B. N., Dr. ès. Sc. (Paris), Ph.D. (Liverpool), Lakshmi Niwas, George Town, Allahabad 2.	Mem. 1945-1946, 1955-1956, 1958- Ad. Mem 1953-1954, 1957-
1935	215.	†PRASAD, MATA, D.Sc., F.R.I.C., Vice-Chancellor, Vikram University, Ujjain. (M.P.).	Mem. 1948-1949, 1951-1952, 1955.

Year of election	Serial No.		Service on Council
F	216.	PRASHAD, BAINI, D.Sc., F.A.S., 10 Dobhawala Road, Dehra Dun.	Mem. Ed. 1935-1939; Ad. V. P. Ed. 1949; Pres. 1941-1942.*
F	217.	PRUTHI, HEM SINGH, O.B.E., Sc.D. (Cantab), F.A.S., Entomologist to Panjab University, Panjab University School of Entomology, Hoshiarpur.	Mem. 1945-1946, 1953-1954; Sec. 1947-1952.
1957	218.	PURI, V., D Sc., F.A.Sc., School of Plant Morphology, Meerut College, Meerut.	
1949	219.	RACINE, C., S.J., D.Sc. (Paris), Professor of Mathematics, Loyola College, Madras 31.	
1953	220.	RAIZADA, M. B., M.Sc., Chief Research Officer, Botany Branch and Head, Division of Forest Botany, Forest Research Institute, P.O. New Forest, Dehra Dun.	
1935	221.	†RAJ, B. SUNDARA, Diwan Bahadur, M.A., Ph.D., Park View, Miller Road, Kilpauk, Madras 10.	
1948	222.	RAJU, S. P., B.E., Dr.Ing., M.I.E., 'Hill View', Red Hills, Hyderabad (Deccan).	
1943	223.	RAKSHIT, H., D.Sc., F.Inst.P., Head of the Department of Electronics and Electrical Communication Engineering, Indian Institute of Technology, Kharagpur.	
1953	224.	RAM, ATMA, D.Sc., F.S.G.T., Director, Central Glass and Ceramic Research Institute, P.O. Jadavpur University, Calcutta 32.	Govt. Rep. 1956; Mem. 1958-
1955	225.	RAMAMURTI, B., M.A., D.Sc., Joint Director, Central Statistical Organization, Cabinet Secretariat, 'B' Barracks, Jan Path, New Delhi.	
F	226.	RAMANATHAN, K. R., M.A., D.Sc., Physical Research Laboratory, Navarangpura, Ahmedabad.	Mem. 1942-1944 V. P. 1955-1956.
1948	227.	RAMANUJAM, S., M.A., Ph.D. (Lond.), Director of Agricultural Research, Govt. of Bihar, Patna.	
1957	228.	RAMASWAMI, L.S., D.Sc., F.Z.S., Assistant Professor of Zoology, Central College, Bangalore 9.	
1935	229.	†RAMDAS, L. A., M.A., Ph.D., Head of Heat and Power Division, National Physical Laboratory, Hillside Road, New Delhi 12.	Mem. 1945-1947, 1950-1952.
1942	230.	RAMIAH, K., D.Sc., "Swathi", 552 XIX Cross Road, Malleswaram P.O., Bangalore 3.	
1943	231.	RANDHAWA, M. S., D.Sc., I.C.S., Vice-President, Indian Council of Agricultural Research and Additional Secretary, Ministry of Food and Agriculture, Government of India, Queen Victoria Road, New Delhi.	Mem. 1947; Trea. 1948.
1951	232.	RANJAN, SHRI, D.Sc., Vice-Chancellor, Allahabad University, Allahabad.	Ad. V. P. 1954-1955, 1958-

Year of election	Serial No.		Service on Council
F	233.	Rao, B. Rama, M.A., D.I.C., F.G.S., 291 Srivilas, Visvesvarapur, Bangalore 4.	Mem. 1943-1945.
1944	234.	Rao, B. Sanjiva, M.A., Ph.D.. D.Sc. (Lond.), Professor of Chemistry, Gauhati University, Jhalukbari, Kamrup Dist , Assam.	Ad. Mem. 1949, 1952; Mem 1953-1954, 1957-
1953	235.	Rao, B. S. Madhava, D.Sc., Professor, Institute of Armament Studies, Kirkee, Poona 3.	
1954	236.	Rao, C. Radhakrishna, M.A., Ph.D., Professor and Head of the Division of Theoretical Research and Training, Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta 35.	
1937	237.	Rao, H. Srinivasa, M.A., D.Sc., F.A.S., F.Z.S.I., 4/86 East Cross Road, No. 22. Katpadi Extension P.O., North Arcot Dist. (Madras).	
1937	238.	Rao, K. Rangadhama, D.Sc. (Madras and London), Principal, College of Science and Professor of Physics, Andhra University, Waltair.	
1939	239.	Rao, L. Rama, M.A., F.G.S., Former Professor of Geology, University of Mysore ; "Shantiniketan", Basavangudi, Bangalore 4.	
1945	240.	Rao, M. V. Radhakrishna, M.B., B.S., Ph.D. (Andhra), Assistant Director, Haffkine Institute, Parel, Bombay 12.	
1948	241.	Rao, S. Ramchandra, Ph.D., D.Sc., Professor of Physics, Sri Venkateswar University, Tirupati (Andhra).	
1951	242.	Rao, S. R. Narayan, M.A., Director of Geology and Mining, U.P., 2 Way Road, Lucknow.	
1957	243.	Rao, T. Ramachandra, D.Sc., Assistant Director of Public Health (Malaria), Bombay State, "Connaught House", Poona 1.	
1950	244.	Ray, H. N., Ph.D., Professor of Protozoology, School of Tropical Medicine, Calcutta 12.	
1948	245.	Ray, J. C., M.D., Director, Indian Institute for Biochemistry and Experimental Medicine, P 27 Prinsep Street, Calcutta 13.	
1935	246.	Ray, J. N., D.Sc., Ph.D., F.R.I.C., c/o Sri A. Basu, National Tower (Ground Flour), 13 Loudon Street, Calcutta 16.	
1958	247.	Ray, M., D.Sc., Professor of Mathematics, Agra College, Agra.	
F	248.	Ray, P., M.A., 50/1 Hindusthan Park, Ballygunge, Calcutta 29.	Mem. 1943-1945.
1943	249.	Ray, R. C., D.Sc. (Lond.), F.R.I.C., F.I.I.Sc., Emeritus Professor of Chemistry, Science College, Patna ; B.M. Das Road, Bankipore, Patna 4.	

Year of election	Serial No.		Service on Council
1956	250.	RAYCHAUDHURI, SACHI P., M.Sc., Ph.D. (Edin.), University Lecturer in Zoology, Calcutta University, 35 Ballygunge Circular Road, Calcutta 19.	
1952	251.	RAYCHAUDHURI, S. P., M.Sc. (Cal.), Ph.D. (Lond.), D.Sc. (Cal. & Lond.), F.R.I.C., Chief Soil Survey Officer, All India Soil and Land Use Survey, Indian Agricultural Research Institute, New Delhi 12.	
1945	252.	†ROONWAL, M. L., M.Sc., Ph.D. (Cantab), Director, Zoological Survey of India, 34 Chittaranjan Avenue, Calcutta 12.	
1954	253.	ROY, A. K., B.Sc. (Cal.), B.A. (Oxon.), Officer-in-charge, Rain and Cloud Physics Research, National Physical Laboratory, Hillside Road, New Delhi 12.	
1957	254.	ROY, B. C., A.I.S.M., D.I.C. (Lond.) M.Sc. (Lond.), Dr. Ing. (Freiberg), Deputy Director, Geological Survey of India, 27 Chowringhee Road, Calcutta 13.	
1940	255.	ROY, S. C., F.R.Met.Soc. (Lond.), H-14 Kailas Colony, P.O. Jungpura Extension, New Delhi 14.	
1940	256.	ROY, S. K., Ph.D., In-charge of Development of Coal Mines, Dabar Colliery, P.O. Shamdih, Dist. Burdwan (*via* Sitarampur), E. Ry.	
1944	257.	ROY, S. N., M.Sc., Institute of Mathematics and Statistics, University of N. Carolina, Chapel Hill, N.C., U.S.A.	
1955	258.	SADASIVAN, T. S., M.Sc., D.Sc. (Lond.), Director (Professor), University Botany Laboratory, Madras 5.	Mem. 1958-
1957	259.	SAHA, N. K., M.Sc., Dr. Nat. (Heidelberg), Reader in Physics, Delhi University. Delhi 8.	
1950	260.	SAHNI, M. R., M.A., D.I.C., Ph.D., D.Sc.. Hony. Fellow, Palaeontological Society Academy of Sciences U.S.S.R., Professor of Geology and Palaeontology, Panjab University, Sector-14, Chandigarh.	
1952	261.	SAKSENA, R. K., D.Sc., Reader in Botany, Allahabad University, Allahabad.	Ad. Mem. 1953-1954.
1953	262.	SANTAPAU, H. (Rev.), S. J., Ph.D., Director, Biological Section, St. Xavier's College, Fort, Bombay.	
1935	263.	SARKAR, P. B., Dr. és Sc., A.I.C., Ghose Professor of Chemistry, Calcutta University, 92 Upper Circular Road, Calcutta 9.	
1946	264.	SARKAR, P. B., D.Sc. (Dacca), Director of Technological Research Laboratories, Indian Central Jute Committee ; P. 133B Lake Terrace, Calcutta 29.	
1941	265.	SAVUR, S. R., M.A., L.T., Ph.D., Dilkush, North Avenue, Santa Cruz (West), Bombay 23.	

Year of election	Serial No.		Service on Council
1955	266.	SEAL, S. C., M.B.B.S. (Cal.), D.P.H. (Cal.), Ph.D. (Bombay), F.A.P.H.A. (U.S.A.), Professor of Epidemiology, All India Institute of Hygiene and Public Health, 110 Chittaranjan Avenue, Calcutta 12.	
1952	267.	SEN, B., D.Sc., Professor of Mathematics, Jadavpur University, Calcutta 32.	
F	268.	SEN, B. M., M.A., M.Sc., I.E.S. (R.), 12 Ballygunge Circular Road, Ballygunge, Calcutta 19.	
1949	269.	†SEN, K. C., D.Sc., 11-A Southern Avenue, Kalighat, Calcutta 26.	
1951	270.	SEN, N. K., D.Sc. (Dacca), F.R.I.C., 22/3H Sreenath Mukherjl Lane, Calcutta 30.	
F	271.	SEN, N. R., Ph.D., D.Sc., Ghose Professor of Applied Mathematics, Calcutta University, 92 Upper Circular Road, Calcutta 9.	Mem. 1935-1941, 1949-1951.
1954	272.	SEN, R. N., M.A., Ph.D., Professor of Pure Mathematics, Calcutta University; 30 Mohan Bagan Lane, Block 2, Calcutta 4.	
1954	273.	SEN GUPTA, M., B.Sc. (Cal.), B.Sc. Hons. (Glas.), C.P.E., M.I.E.E. (Lond.), M.I.E. (Ind.), M.I. Mech.E. (Lond.), M.Brit.I.R.E. (Lond.), F.R.S.A. (Lond.), F.I.P.S., Professor and Head of the Department of Electrical Engineering and Principal, Engineering College, Banaras Hindu University, Varanasi 5.	
1953	274.	SESHACHAR, B. R., D.Sc., Professor and Head of the Department of Zoology, Central College, Bangalore.	Mem 1956-
1942	275.	SESHADRI, T. R., M.A., Ph.D. (Manchester), F.R.I.C., F.A.Sc., Professor and Head of the Department of Chemistry, Delhi University, Delhi 8.	
1943	276.	SETNA, S. B., M.Sc., Ph.D. (Cantab), F.R.M.S., Director of New India Fisheries Ltd., 'Taiyo House', Sassoon Dock, Colaba, Bombay 5.	
1936	277.	†SEWELL, R. B. SEYMOUR, Lt.-Col., C.I.E., M.A., Sc.D., F.R.S., M.R.C.S., L.R.C.P., F.Z.S., F.L.S., F.A.S., 18 Barrow Road, Cambridge, England.	
1941	278.	SHAH, R. C. M.Sc., Ph.D. (Lond.), Assistant Director, National Chemical Laboratory, Poona 8.	
1952	279.	SHAH, S. M., M.A., Ph.D., D.Litt. (Lond.), F.R.S.E., Professor and Head of the Department of Mathematics and Statistics, Muslim University, Marris Road, Aligarh.	
1939	280.	SHARIF, M., D.Sc., Ph.D., c/o Sh. Muizz-ud-Din, M.A., Lecturer, Central Training College, Lahore, Pakistan.	

Year of election	Serial No.		Service on Council
1937	281.	SIDDIQI, M. R., M.A., Ph.D., Vice-Chancellor, Peshawar University, Peshawar, Pakistan.	Mem. 1941-1943, 1946-1947.
F	282.	SINGH, B. K., M.A., Sc.D., F.R.I.C., I.E.S., Honorary Research Professor of Chemistry, Banaras Hindu University, Varanasi 5.	Ad. V. P. 1935-1936, 1944-1946; Ad. Mem. 1941.
1941	283.	SINGH, B. N., D.Sc, M.Sc., F.N.A.S., F.A.Sc., F.R.H.S., Crop Physiologist to Government, U.P., Director, Institute of Crop Physiology, Dilkusha, Lucknow.	
1952	284.	SINGH, I., M.B.B.S., Ph.D., L.R.C.P., M.R.C.S., Professor of Physiology, S. N. Medical College, Agra.	
1956	285.	SINGH, JASWANT, M.B., Ch.B. (Edin.), D.T.M. & H. (Lond.), D.P.H. (Eng.), Lt.-Col., Director General of Health Services, North Block, Central Secretariat, New Delhi.	
1954	286.	SIRCAR, S. M., M.Sc.. Ph.D. (Lond.), D.I.C., Reader in Botany, Calcutta University, 35 Ballygunge Circular Road, Calcutta 19.	
1942	287.	SIRKAR, S. C., D.Sc., M. L. S. Professor of Physics, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32.	
F	288.	SOKHEY, S. S., M.A., M.D., D.T.M. & H., Major-General, I.M.S, c/o Haffkine Institute, Parel, Bombay 12.	Mem. 1935-1938, 1946-1947; V.P, 1948-1949.
1941	289.	SONDHI, V. P., M.Sc., F.G.S., c/o Geological Survey of India, 27 Chowringee Road, Calcutta 13.	
1950	290.	SREENIVASAN, A., D.Sc., F.R.I.C., Professor of Food Technology, Department of Chemical Technology, University of Bombay, Matunga Road, Bombay 19.	
1946	291.	SRIVASTAVA, B. N., D.Sc., Professor of General Physics, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32.	
1935	292.	SRIVASTAVA, P. L., M.A., D.Phil., Head of the Departmant of Mathematics, Allahabad University, Allahabad.	Ad. Mem. 1942-1943, 1945, 1948-1949, 1951-1952, 1958-Ad. V. P. 1944, 1956-1957.
F	293.	SUBRAHMANYAN, V., D.Sc., F.R.I.C., Director, Central Food Technological Research Institute, Cheluvamba Mansion, V. V. Mohalla P.O., Mysore.	Mem. 1938, 1952-1954.
1958	294.	SUBRAMANIAM, A. P., A. M., Ph. D., F. G. S., M.G.S. Am., Petrologist, Geological Survey of India, 27 Chowringhee, Calcutta 13.	
1943	295.	SUKHATME, P. V., M.Sc. (Lond.), Ph.D., M 64 Connaught Circus, New Delhi.	Mem. 1950-1951.

Year of election	Serial No.		Service on Council
1938	296.	SUR, N. K., D.Sc., 74 Tagore Town, Allahabad 2.	Mem. 1941-1943.
1956	297.	†SWAROOP, S., M.A., Ph.D. M.P.H., Chief, Statistical Studies Section, World Health Organization, Palais des Nations, Geneva, Switzerland.	
1942	298.	TAWDE, N. R., M.Sc., Ph.D. (Lond.), F.Inst.P., Professor of Physics, Karnatak University, Dharwar.	Mem, 1953-1955, 1957-
1953	299.	THACKER, M. S , D.Sc. (Hc.), B.Sc. (Engg.), M.I.E.E. (Lond.), M.I.M. (Lond.), M.Inst.F. (Lond.), M.I.E., M.I.R.E., M.ind. I.M., M.Elec. Chem.S., A.M.Il.E.S., F.Am.I.E.E., F.I.A.Sc., Secretary to the Government of India, Department of Scientific Research and cultural Affairs and Director General, Scientific and Industrial Research, Old Mill Road, New Delhi 2.	Mem. 1954-1956, Ad. V. P. and Govt. Rep. 1957-
1952	300.	THAPAR, G. S., M.Sc., Ph.D., 14 Mahatma Gandhi Road, Lucknow.	
1956	301.	THIRUMALACHAR, M. J., D.Sc , Ph.D., Chief Mycologist, Hindustan Antibiotics, Pimpri, Poona.	
1943	302.	TOSHNIWAL, G. R., D.Sc., S.M.I.R.E., Managing Director, Toshniwal Bros. Ltd., 198 Jamshedji Tata Road, Churchgate, Bombay 1.	
1943	303.	TRIBEDI, B. P., M.B. (Cal.), D.B. (Lond.), F.S.M.F. (W.B.), 11/1 Kyd Street, Calcutta 16.	
1935	304.	†UKIL, A. C., M.B., M.S.P.E. (Paris), F.S.M.F. (Hon. causa), F.C.C.P. (Emeritus), F.A.S., Consulting Physician, Division of Chest Diseases, Calcutta Medical College Hospitals ; 57 McLeod Street, Calcutta 16.	Mem. 1945-1947, 1949-1951, 1953-1954; Ad. Mem. 1952; Ad. V. P. 1948; Pres. 1955-1956*.
1944	305.	UPPAL, B. N., Ph.D., Agricultural Commissioner with the Government of India, Indian Council of Agricultural Research, Queen Victoria Road, New Delhi.	
1952	306.	UPPAL, H. L., M.Sc., Ph.D., Director, Irrigation & Power Research Institute, Punjab, Amritsar.	
1942	307.	†VACHELL, E.T., M.A.(Cantab), F.G.S., F.Inst. Pet., F.S.A., Coley, Lydwell Road, Torquay, Devon, England.	
1953	308.	VAIDYA, W. M., Ph.D., Assistant Director, National Physical Laboratory, Hillside Road, New Delhi 12.	
1949	309.	VARMA, R. S., D.Sc., Officer-in-Charge, Defence Science Laboratory, N. P. L. Building, New Delhi 12.	
1950	310.	VASUDEVA, R. S., Ph.D. (Lond.), D.Sc. (Lond.), D.I.C., Joint Director and Head of the Division of Mycology and Plant Pathology, Indian Agricultural Research Institute, New Delhi 12.	

Year of election	Serial No.		Service on Council
1939	311.	VENKATARAMAN, K., M.S.Tech., Ph.D., D.Sc., Director, National Chemical Laboratory, Poona 8.	Mem. 1943-1945, 1952-1953, 1955-1956, 1958-
F	312.	VENKATESACHAR, B., Rao Bahadur, M.A., F.Inst.P., c/o Dr. B. V. Raghavendra Rao, Bungalow No. 12, Indian Institute of Science, Bangalore 3.	Mem. 1935-1941.
1955	313.	VENKITESWARAN, S. P., B.A. (Hons.), F. A. Sc. A.M.I.T.E., Director (Instruments), Meteorological Office, Poona 5.	
1946	314.	VERMAN, L. C., B.S.Eng., M.S., Ph.D. (Cornell), F.Inst.P., Director, Indian Standards Institution, 'Manak Bhawan', 9 Mathura Road, New Delhi.	
F	315.	VISWANATH, B., D.Sc., F.R.I.C., 'Krishna Nivas', 8-A/85 Western Extension, Pusa Road, New Delhi.	Ad. V. P. 1939-1940.
F	316.	WADIA, D. N., M.A., D.Sc. (Hon.), F.R.S., F.G.S., F.A.S., Geological Adviser, Department of Atomic Energy, 10 King George's Avenue, New Delhi.	Ad. V. P. 1942; V. P. 1943-1944; Pres. 1945-1946;* Govt. Rep. 1947.
1957	317.	WAHI, P. N., M.D., M.R.C.P. (Lond.), Professor of Pathology and Principal, S. N. Medical College, Agra.	
F	318.	WEST, W. D., C.I.E., M.A., Sc.D. (Cantab), F.A.S., Department of Applied Geology, Saugar University, Sagar.	Ad. Mem. 1935-1940; Ad. V.P. 1941-1944, 1946, 1949; Sec. 1945; Mem. 1947-1948, 1958-
F	319.	WHEELER, T. S., D.Sc., Ph.D., F.R.C.Sc.I., F.R.I.C., F.Inst.P., M.I.Chem.E., M.R.I.A., Professor of Chemistry, University College, Upper Merrion Street, Dublin, Eire.	Ad. V. P. 1937,
1940	320.	YAJNIK, N. A., M.A., D.Sc., A.R.I.C., Tejpal House, Bomanji Petit Road, Bombay 26.	

HONORARY FELLOWS

1939	1.	APPLETON, SIR EDWARD V. G.B.E., K.C.B., D.Sc., F.R.S., N.L., Principal and Vice-Chancellor of the University of Edinburgh, The Old College, South Bridge, Edinburgh 8.
1941	2.	BAILEY, SIR E. B., Kt., D.Sc., LL.D., F.R.S., 76 Hampstead way, London N.W. 11.
1935	3.	BOHR, NIELS, F.Mem. R.S., N.L., Director, Institute for Theoretical Physics, University of Copenhagen, Blegdamsvej 17, Copenhagen, Denmark.

* "Past Presidents up to a limit of 3, who have most recently held office of President shall be *ex-officio* Additional Members of the Council."

† Paid compounding fee for all future subscriptions.

Year of election	Serial No.	
1949	4.	Broglie, Louis de, D.Sc., F.Mem. R.S., N.L., Professor of Theoretical Physics, Poincare Institute, Sorbonne, Paris.
1947	5.	Burn, J. H., M.D., Hon. Sc.D. (Yale), F.R.S., Professor of Pharmacology, Oxford University, South Parks Road, Oxford.
1955	6.	Chain, E. B., F.R.S., Professor of Biochemistry, Instituto Superiore de Sanita, 299 Viale Regina Margherita, Rome, Italy.
1954	7.	Chapman, Sydney, F.R.S., High Altitude Observatory, Boulder, Colorado. U.S.A.
1940	8.	Christophers, Sir Samuel Rickard, Kt., C.I.E., O.B.E., M.B., C.H.B., F R.S., Brevet-Colonel, I.M.S. (R.), 186 Huntingdon Road, Cambridge.
1957	9.	Compton, A. H., M.A., Ph.D., Sc.D., LL.D., N.L., Washington University, St. Louis 5, Missouri, U.S.A.
1944	10.	Dale, Sir Henry Hallett, O.M., G.B.E., M.A. M.D.F.R.C.P., Hon. D.Sc., Hon. M.D., Hon. LL.D., F.R.S., Chairman of the Wellcome Trust; 54 Campden Hill Court, Kensington, London, W. 8.
1953	11.	Daly, Reginald A., Professor Emeritus of Geology, Harvard University, Cambridge, Mass., U.S.A.
1950	12.	Debye, P., F.Mem. R.S., N.L., Professor Emeritus of Chemistry, Cornell University, Ithaca, New York, U.S.A.
1947	13.	Dirac, P. A. M., F.R.S., N.L., Lucasian Professor of Mathematics, Cambridge University, Cambridge.
1954	14.	Engelhardt, V. A., Professor of Biochemistry, Institute of Biochemistry, Moscow Academy of Sciences, Moscow, U.S.S.R.
1949	15.	Euler, Hans von, N.L., Professor of Chemistry Stockholm University, Box 6073, Stockholm, Sweden.
1939	16.	Fisher, Sir Ronald A., Sc.D., F.R.S., Gonville and Caius College, Cambridge.
1953	17.	Haldane, J. B. S., (Hon.) D.Sc., F.R.S., Research Professor, Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta 35.
1954	18.	Heisenberg, W., F.Mem.R.S., N.L., Director, Max-Planck Institut für Physik, Gottingen, West Germany.
1944	19.	Hill, A. V., C.H., O.B.E., Sc.D., F.R.S., N.L., Hon. Research Associate, Department of Physiology, University College, Gower Street, London, W.C. 1.

Year of election	Serial No.	
1952	20.	HOUSSAY, BERNARDO A., F.Mem. R.S., N.L., Instituto de Biologia y Medicina Experimental, Costa Rica 4185, Buones Aires, Argentina.
1956	21.	KAPITZA, PETER, Ph.D., F.R.S., Director, Institute of Physical Problems, Academy of Sciences, Moscow, U.S.S.R.
1954	22.	KARRER, PAUL, F.Mem. R.S., N.L., University of Zurich, Zurich, Switzerland.
1958	23.	KIHARA, HITOSHI, Director, National Institute of Genetics, Yata 1111, Misima, Sizuoka-Ken, Japan.
1956	24.	KREBS, SIR HANS A., F.R.S., Department of Biochemistry, University of Oxford, South Parks Road, Oxford, England.
1951	25.	KUHN, RICHARD, N. L. Professor Dr., Director, Max-Planck Institut für Medizinische Forschung, Institut für Chemie, Heidelberg, Germany.
1950	26.	LAUE, M. VON, N. L., Direktor des Fritz-Haber-Institutes der Max-Planck Gesellschaft, Berlin-Dahlem, Faradayweg 8; Honorar-Professor der Universitat, Gottingen, Germany.
1941	27.	LAWRENCE, E. O., Radiation Laboratory, University of California, Berkeley, California, U.S.A.
1955	28.	LEIPER, R. T., F.R.S., Director, Commonwealth Bureau of Agricultural Parasitology, St. Albans, England.
1952	29.	MARK, HERMANN, Director of Polymer Research, Brooklyn Polytechnic Institute, Brooklyn, U S.A.
1935	30.	MARSHALL, SIR GUY A. K., K.C.M.G., D.Sc., F.R.S., Formerly Director, Imperial Institute of Entomology, London; 31 Melton Court, London, S.W. 7.
1951	31.	MULLER, H. J., D.Sc., For. Mem. R.S., N.L., Distinguished Service Professor, Department of Zoology, Indiana University, Bloomington, Indiana, U.S.A.
1956	32.	NESMEYANOV, A. N., President of the Academy of Sciences, U.S.S.R., Moscow.
1957	33.	PAULING, LINUS, Sc.D., Ph.D., F.Mem. R.S., N.L.; Professor of Chemistry, California Institute of Technology, Pasadena, California, U.S.A.
1937	34.	ROBINSON, SIR ROBERT, D.Sc., F.R.S., N.L., 170 Piccadilly, London, W. 1.
1938	35.	RUSSELL, SIR E. JOHN, D.Sc., F.R.S., Compsfield Wood, Woodstock, Oxfordshire, England.

Year of election	Serial No.	
1950	36.	SCHRÖDINGER, ERWIN, F.Mem. R.S., N.L., Professor of Theoretical Physics, University of Vienna, Wien 9, Pasteurgasse 4, Austria.
1946	37.	SELYE, HANS, Professor and Director, Institute of Experimental Medicine and Surgery, University of Montreal, Canada.
1949	38.	SHAPLEY, HARLOW, M.A., Ph.D., LL.D., D.Sc., D.Litt., Formerly Director of Harvard University Observatory and President, American Science Association ; Peterborough, New Hampshire, U.S.A.
1950	39.	SIEGBAHN, K. M. G., F.Mem. R.S., N.L., Nobel Institute of Physics, Stockholm, Sweden.
1947	40.	SZENT-GYÖRGYI, A., N.L., Professor of Biochemistry, Marine Biological Laboratory, Woodshole, Mass., U.S.A.
1947	41.	UREY, HAROLD C., F.Mem. R.S., Professor of Chemistry, University of California at La Jolla, California, U.S.A.
1951	42.	WAKSMAN, SELMAN A., Director of the Institute of Microbiology, Rutgers, The State University, New Brunswick, N.J., U.S.A.
1957	43.	YOSHIDA, TOMIZO, Deptt. of Pathology, Faculty of Medicine, University of Tokyo, Hongo, Tokyo, Japan.
1957	44.	YUKAWA, HIDEKI, D.Sc., N.L., Kyoto University, Kyoto, Japan.

APPENDIX II

COMMITTEES

Sectional Committees, 1958

		To serve until Dec. 31
(1) 'Mathematics' Committee for Mathematics, Astronomy and Geodesy :—		
Prof. Ram Behari (Secretary & Convener)	...	1958
Prof. K. Chandrasekharan	...	1958
Prof. S. Gupta	...	1959
Prof. P. L. Srivastava	...	1959
Dr. R. P. Bambah	...	1960
Dr. C. R. Rao	...	1960
(2) 'Physics' Committee for Physics and Meteorology :—		
Prof. K. Banerjee (Secretary & Convener)	...	1958
Dr. K. R. Ramanathan	...	1958
Prof. P. S. Gill	...	1959
Prof. R. S. Krishnan	...	1959
Dr. K. R. Dixit	...	1960
Prof. N. R. Tawde	...	1960
(3) 'Chemistry' Committee for Pure and Applied Chemistry :—		
Prof. B. C. Guha	...	1958
Prof. K. Venkataraman (Secretary & Convener)	...	1958
Prof. R. P. Mitra	...	1959
Dr. Atma Ram	...	1959
Dr. U. P. Basu	...	1960
Prof. B. Sanjiva Rao	...	1960
(4) 'Engineering Sciences' Committee for Engineering Metallurgy, Electrotechnics and kindred subjects :—		
Dr. A. N. Khosla (Secretary & Convener)	...	1958
Dr. V. M. Ghatage	...	1958
Dr. D. R. Malhotra	...	1959
Sri N. V. Modak	...	1959
Sri V. Cadambe	...	1960
Prof. M. S. Thacker	...	1960
(5) 'Geology' Committee for Geology, Palaeontology, Mineralogy and Geography :—		
Dr. K. Jacob	...	1958
Prof. C. Mahadevan (Secretary & Convener)	...	1958
Dr. P. K. Ghosh	...	1959
Sri V. P. Sondhi	...	1959
Dr. M. S. Krishnan	...	1960
Dr. W. D. West	...	1960

(6) 'Botany' Committee for Pure and Applied Botany, Forestry and Agronomy :—

Dr. A. C. Joshi	...	1958
Prof. S. P. Agharkar	...	1958
Prof. P. N. Bhaduri	...	1959
Prof. R. Misra	...	1959
Dr. B. P. Pal (Secretary & Convener)	...	1960
Prof. T. S. Sadasivan	...	1960

(7) 'Zoology' Committee for Pure and Applied Zoology and Anthropology including Ethnology :—

Dr. B. S. Bhimachar	...	1958
Prof. B. R. Seshachar (Secretary & Convener)	...	1958
Prof. J. L. Bhaduri	...	1959
Dr. H. R. Mehra	...	1959
Prof. K. P. Chattopadhyay	...	1960
Prof. M. A. Moghe	...	1960

(8) 'Physiology' Committee for Animal Physiology, Pathology, Bacteriology, Psychology and other Medical and Veterinary subjects :—

Dr. R- N. Chaudhuri	...	1958
Dr. C. G. Pandit	...	1958
Dr. B. Mukerji (Secretary & Convener)	...	1958
Dr. V. R. Khanolkar	...	1959
Dr. K. Mitra	...	1959
Dr. J. C. Ray	...	1959
Dr. K. N. Bagchi	...	1960
Dr. B. B. Dikshit	...	1960
Dr. M. V. Govindaswamy	...	1960

Finance Committee, 1958

The President
The Treasurer
The two Secretaries
The Editor of Publications
Prof. D. S. Kothari
Prof. P. S. Gill

Research Fellowships Committee, 1958

The President The Treasurer The two Secretaries	*ex-officio*
Prof. C. Racine Prof. R. N. Sen Dr. C. R. Rao	Mathematics
Prof. R. S. Krishnan Prof. S. K. Mitra Dr. K. R. Dixit	Physics
Prof. P. Ray Dr. R. C. Shah Prof. R. P. Mitra	Chemistry

Sri V. P. Sondhi Dr. C. Mahadevan Dr. W. D. West	Geology
Prof. I. Banerji Prof. T. S. Sadasivan Dr. B. P. Pal	Botany
Prof. D. N. Majumdar Prof. M. A. Moghe Dr. N. K. Panikkar	Zoology
Dr. M. V. Govindaswamy Dr. B. Mukerji Dr. A. C. Ukil	Physiology
Prof. M. S. Thacker Dr. C. S. Ghosh Sri V. Cadambe	Engineering Sciences

Grants Committee, 1958

The President
The Treasurer
The two Secretaries
Conveners of all Sectional Committees

Standing Committee for Organization of Symposia, 1958

The President The Treasurer The two Secretaries	ex-officio
Dr. U. P. Basu Prof. P. S. Gill Dr. C. S. Ghosh Prof. B. C. Guha Dr. M. S. Krishnan Dr. B. Mukerji Prof. B. R. Seshachar (Convener)	

Building Committee, 1958

The President
The Treasurer
The two Secretaries
Members of the Council resident in Delhi
with power to co-opt other members.

Library Committee, 1958

The President
The Treasurer
The two Secretaries
Members of the Council resident in Delhi

Biological Board

Members of Sectional Committees for Botany, Zoology and Physiology
Members of Council who are biologists including Physiologists, with powers to co-opt other members.

Board for Physical Sciences

Members of Council and Sectional Committees belonging to Mathematics, Physics, Chemistry, Engineering Sciences and Geology with powers to co-opt other members.

Standing Committee for History of Sciences of India

The President
Dr. D. M. Bose
Prof. D. S. Kothari
Dr. K. S. Krishnan
Prof. C. Mahadevan
Dr. G. P. Majumdar
Prof. S. K. Mitra
Dr. B. Mukerji
Prof. P. Ray
Prof. M. S. Thacker
Dr. A. C. Ukil (Convener)

Publication Advisory Board, 1958

The President
The Treasurer
The two Secretaries
The Editor of Publications
Member of the Council resident in Delhi
with power to co-opt other members.

APPENDIX III

Important Resolutions of the Council

Most of the important items from the proceedings have already been abstracted and incorporated in the Report. Such other important decisions as could not be included in the body of the Report are given below under provisions of the Rule 43 (f).

August 2, 1957

The Council accepted the following recommendation of the Publication Advisory Board:

"The Board recommended that in future a Symposium should be held under the following conditions only:

(i) At least three important papers must be in hand before the Symposium starts.

(ii) The proceedings of a Symposium should be published within one year from the date of the Symposium."

APPENDIX IV

Summaries of Final Reports of Research fellows

NIS Senior Research Fellowship

Name of Research Fellow ... Dr. Aneesur Rahman
Subject of Research ... (i) Wave functions of H_2 molecule (ii) Energy levels of Li_2 molecule.

(1st July, 1955 to 1st January, 1958)

1. The work on the molecules cis-$C_2H_2Br_2$ and cis-$C_2D_2Br_2$ is now complete and will be communicated (with Dr. K. Ramavataram as co-author).

The computations have shown that the potential function for polyatomic molecules cannot be computed with very great certainty given the usual data in Raman and I.R. absorption. Our potential function reproduces satisfactorily the observed frequencies but is nevertheless different in certain respects from that computed for the same molecule by workers in Prof. Cleveland's laboratory in Chicago.

The purpose of making this computation and comparison with other computations is to show that the potential functions for complicated polyatomic molecules cannot be found in a unique and satisfactory manner. Other similar computations on simpler molecules (1952-1954) brought the author to the same conclusion.

2. A computation of the vibration frequencies of the Indian musical drum, the thabala, has been made satisfactorily using the variation method by Miss T. Sarojini and the manuscript is under preparation for publication with Miss Sarojini as co-author.

An analytical solution leading to a sort of generalised Bessel function (of first and second kind) is also under way and shows much promise. The (inseparable) coordinate system used is particularly well suited to this analysis and it appears to have not yet been considered in the literature on the subject.

Name of Research Fellow ... Dr. H. S. Hans
Subject of Research ... Building up a 150 KV Cockcroft Walton type accelerator. (b) Study of nuclear reactions with neutrons as incident particles (n, n'), (n, p) and (n,α) reactions.

(February 1957 to February 1958).

The following types of research activities were undertaken during the period February 1957 to February 1958 :

1. Neutron Cross-Section Measurements.
2. Radioactivity.
3. Building of a Cockcroft-Walton Accelerator.

In the case of Neutron Cross-Section measurements, a 200 MC Ra-Be neutron source was made use of. Using scintillation technique, thermal neutron cross-sections were measured for Hg^{196} (n, γ) $Hg^{197m}2$, Hg^{196} (n, γ) Hg^{197}; Hg^{198} (n, γ) Hg^{199m} 2, and Re^{187} (n, γ) Re^{188m}. These measurements are completely new measurements and have been made for the first time. The results were reported in the Conference of Low Energy Nuclear Physics in Bombay last year. They are being sent for publication.

In radioactivity, the problem of the decay of Po^{210} was solved by the use of a NaI (Tl) scintillation spectrometer. A paper about this work has been sent to Nuovo Cimento for publication.

The construction of the Cockcroft-Walton Accelerator was also completed in this period. It started functioning in Oct. 1957. It is now possible to get a beam of protons or deutrons giving a current of more than 200 MA. The set has been functioning regularly since then. An experiment on an exothermal (P, γ) reaction is in progress. Neutron experiments will be taken up next. The paper has been sent for publication in Indian Journal of Physics.

The following papers have been published or sent for publication in this period :—

1.	Tne Study of Noise Pulses and a Liquid Scintillator.	B. P. Singh, H. S. Hans, & P. S. Gill	Indian Journal of Physics, V. 32 No. 4, p. 183-191, 1958.
2.	On the thermal Neutron Cross-section.	H. S. Hans & M. L. Sehgal	Indian Journal of Physics, 1958 (in print).
3.	Thermal Neutron Cross-Section for the production of Isomers.	M. L. Sehgal & H. S. Hans	Low Energy Nuclear Physics Conference, Bombay, 1957.
4.	Investigation on the Decay of Po^{210}.	B. P. Singh, H. S. Hans & P. S. Gill	Sent for publication to Nuovo Cimento.
5.	150 KV Cockcraft-Walton type Accelerator.	C. S. Khurana & H. S. Hans	Sent for publication in Indian Journal of Physics.

NIS Junior Research Fellowship

Name of Research Fellow ... Dr. O. P. Vig
Subject of Research ... Synthetic investigation in terpenoids.

(1st July, 1955 to 30th June, 1957)

New synthesis of a number of naturally occurring $\alpha\beta$ unsaturated carbonyl terpenses such as dl-phellandrol, dl-pulegone, dl-arturmerone dl-camphorone, dl-cryptone and dl-cryptone and dl-carvotancetone have been accompalished. The basic idea underlying all these syntheses is that in a multifunctional organic compound in which one of the function is a keto group and the other may be an aldehyde, ketone or ester, one group can be protected by enolic ether or cyclic ketal formation and the other group is left open for an attack by various types of reactions, e.g., Birch reduction, Grignard reaction, Bouveault Blanc reduction, $LiAlH_4$ reduction so long as the reaction medium remains neutral or alkaline. The hydrolytic regeneration of the defunct carbonyl, accompanied by an anionotropic rearrangement, produces in an unambiguous manner an $\alpha\beta$-unsaturated ketone or aldehyde.

Attempts were made to synthesise the isopropenyl form of various terpenes such as limonene and β terpineol etc. by making use of the Hoffman's degradation technique, but the work could not be pushed to the end because of the exiguous yield at the intermediary steps.

Name of Research Fellow ... Dr. Supriya Roy
Subject of Research ... The manganese ores of India—their genesis, mineragraphy, quality and beneficiation of low grade ores.

(3rd July, 1956 to 5th March, 1958)

Research work under the scheme of 'Mineragraphic study of the Manganese ores of India—the Gonditic, Koduritic and Lateritoid types' was started from July 3, 1956, and during this period of One Year and Eight months the following work has been done and the results obtained :

(i) A comprehensive bibliography relating to investigations on Manganese ores of India and abroad, has been prepared. About one hundred and thirty papers relating to the different aspects of Manganese ores have been consulted.

(ii) Field work and collection of specimens have been done in different parts of India. In the manganese belt of Madhya Pradesh and Bombay state deposits in Nagpur, Bhandara, Chindwara and Balaghat districts were visited and geological work was done and collection of specimens were made from the following areas : Kodegaon, Gumgaon, Ramdongri, Munser, Kandri, Junawani, Junapani, Tirodi, Dongri Buzurg and Bharweli (Balaghat). Of these the typical gonditic deposits are those of Tirodi, Munser, Kandri, Gumgaon, Kodegaon and Ramdongri, while in Junawani and Junapani the ores are associated with Calc-silicates and marbles and in Bharweli with phyllites. The manganese area in Andhra Pradesh, around Vizianagram, was also visited and geological work and collection of specimens were done in such type Kodurite areas as Kodur, Garividi, Garbham etc. and also from different type of deposits in the Salur Zamindary area.

(iii) The laboratory investigations of the ores was mainly confined to mineragraphic study of polished sections of ores under reflected light. About 300 polished sections were studied and the mineral assemblages were noted in different areas. Textural relationships were studied and their interpretation was attempted. The variations and stability field of different manganese minerals in different grades of metamorphism were noted and a more or less generalised conclusion was attempted. The results of the investigation are given in a greater detail in the actual body of the report.

(iv) Publications :

One paper entitled 'Mineragraphic study of the Manganese ores of Tirodi, Balaghat Dt., Madhya Pradesh, India' had been communicated to the National Institute of Sciences of India for publication in their Proceedings. The paper has been accepted for publication and is now in press.

Another abstract on 'Mineragraphic and Textural studies of the Manganese ores of Dongri Buzurg, Bhandara Dt., Bombay State' has been published in the Proceedings of the Indian Science Congress, 1958 as a matter of information. The original paper will shortly be sent for publication in the Proceedings of N.I.S.I.

Name of Research Fellow ... Dr. H. R. Chipalkatti
Subject of Research ... Sorption Studies from vapour phase and non-aqueous liquid phase on cellulosic materials.

(March 1, 1956 to February 28, 1958)

1. The work consists of sorption of formaldehyde from dry benzene on cotton containing different amounts of water. In the presence of firmly held water, hydroxyl groups of cellulose appear to be activated, entering into chemical combination with formaldehyde. Under anhydrous condition and in the presence of distilled water chemical combination does not take place between cellulose and formaldehyde.

2. Some preliminary experiments of vapour phase sorption of water and methyl alcohol on alkali and acid swollen cellulose are reported to investigate the difference in the two mechanisms.

ICI (India) Research Fellowship

Name of Research Fellow ... Dr. S. P. Puri

Subject of Research ... Discharge Spread Mechanism of Halogen Counters.

(February 1, 1956 to January 31, 1958)

The work was carried out under the guidance of Prof. P. S. Gill at the Physics Laboratory, Aligarh University, Aligarh.

After constructing the Halogen Counters, the following aspects of its operation had been tackled :—

(1) Discharge spread probability; (2) Attenuation length of the photons generated in the discharge; (3) Propagation of discharge parallel to the wire; (4) Formative time lag in pulse formation and the photon transit time; (5) Time of ascent of the leading edge of the pulse; (6) Pulse forms at Geiger threshold; (7) Discussion of the secondary mechanism responsible for discharge spread.

All these features are grouped in the following two papers :

(1) Firing characteristics of Halogen-quenched Geiger-Muller counters, Proc. Nat. Inst., Dec. 1957, issue.

(2) Formative Time lags of build up process in Halogen quenched counters (to be published).

APPENDIX V

Regulations Regarding the Election of Ordinary Fellows

1. Every candidate shall be proposed and recommended by a certificate in writing signed by four or more Fellows in good standing (i.e. who have paid their subscriptions for the current year) of whom at least three shall certify the recommendation from personal knowledge. Either of the two Secretaries shall have the power, however, to sign a certificate on behalf of a Fellow not resident in India on receiving a written request from him. The certificate shall specify the name, age, rank, profession, qualifications including list of publications, and the usual place of residence of the candidate in a form prescribed by the Council. This form shall also include a brief statement of the actual nature and value of the research work of the candidate, and of his contribution to new knowledge, and, wherever possible, be accompanied by a set of reprints of his papers, particularly those in which the researches and contributions to new knowledge referred to by the proposer have been embodied, or other documents connected therewith. The certificate along with the reprints and other documents being received by one of the Secretories or the Assistant Secretary by February 28, shall be registered, with the date of delivery in a book to be kept for the purpose, and read at the next meeting of the Council, and, unless otherwise ordered, shall be suspended in some convenient place in the office of the Institute until the day of election.

2. Of the Fellows who sign a certificate from personal knowledge of the candidate, two shall undertake the responsibility of acting as proposer and seconder respectively, in so far that all communications on the subject of the candidature shall take place with one of these. The proposer shall be responsible for informing the candidate of the obligation to be subscribed and of the payments to be made to the Institute before he can be admitted as a Fellow.

3. At a meeting of the Council of the National Institute held in March (Non-statutory), the names of all candidates proposed prior to the 1st day of March and subsequent to the last announcement of the names of candidates, and also the names of those candidates whose certificates have been resuspended as hereinafter provided, shall be announced by one of the Secretaries. At this meeting the Council shall consider the list of candidates, and draw up the instructions to be given to the Sectional Committees for expression of opinion on the list of candidates referred to them ; provided, however, that certificates of the candidates proposed for election on the basis of their work in Archaeology or any other branch of Natural Knowledge not coming within the purview of any of the existing Sectional Committees, shall be considered by the Council at the time of selecting the candidates for Followship without being referred to any Sectional Committee for its recommendations. In the absence of a quorum at this meeting of the Council, the Secretaries shall take steps to refer the nominations to the Sectional Committees. A list arranged in alphabetical order without reference to the dates of the certificates of the candidates, together with brief statements of the actual nature and value of the research work of the candidates and names of the Fellows by whom each candidate is proposed, seconded and supported, shall be printed and a copy shall immediately thereafter be sent to every Fellow.

4. Before the May meeting of the Council, the Secretaries shall circulate to the members of the Sectional Committees the list of candidates proposed for

election from the respective sections, with a statement showing the research work of the individual candidates, and then shall call meetings of the Sectional Committees, in May, to consider the nominations and make recommendations for election to Ordinary Fellowship. The Conveners shall then forward to the Secretaries or to the Assistant Secretary for consideration by the Council the recommendations of their Committees on the list of candidates, the names being arranged in order of priority.

5 The recommendations of the Sectional Committees shall be circulated to an ad hoc Advisory Committee, to be set up by the President and the two Vice-Presidents, which shall meet in August and prepare a consolidated report based on the recommendations made by the different Sectional Committees for the consideration of the Council.

6. The recommendations of the Sectional Committees and the consolidated report of the ad hoc Committee shall be circulated to all members of the Council at least four weeks before the date of the meeting of the Council to be held in October and opinions invited from members so as to reach the Secretaries at least three days before the date of the meeting of the Council.

7. At the meeting of the Council to be held in October, the Council shall, after considering such recommendations as may have been received, select by ballot a number not exceeding fifteen to be recommended to the Fellows of the Institute for election; but no such selection by the Council shall be valid unless nine members at least be present and vote, a majority deciding, or in the event of equality, the Chairman having a second and casting vote.

8. Soon after the selection by the Council, a circular letter shall be forthwith sent to every Fellow resident in India as a voting paper and enclosing a printed list of the selected candidates, with space for such alterations as any Fellow may determine to make in pursuance of Regulation 10.

9. The Fellows shall then vote for not more than the number to be elected in that year by placing a cross against the names of those they wish to be elected, and no paper with more crosses than vacancies shall be accepted.

10. A Fellow can erase the name of a candidate or candidates for whom he does not vote, and substitute the name of any other candidate or candidates contained in the printed list, mentioned in Regulation 3 above.

11. The voting paper shall not be signed but enclosed in a sealed envelope, which shall be forwarded to the Secretaries in an outer cover with a covering letter signed by the Fellow so as to reach the office of the Institute by the 30th November. In the absence of a covering letter, the voting paper shall be invalid.

12. At the January meeting of the Council the Chairman shall appoint two scrutineers, who, after having opened the voting papers with the Secretaries, shall report to the Chairman the number of votes received by each candidate. In the case of a tie, the Chairman shall have a casting vote. The Chairman shall then announce from the Chair the names of the candidates who have been elected, and the results of the election shall forthwith be notified to all Fellows by post.

13. Any candidate whose name shall have been printed in a previous list of candidates, but who shall not have been elected, shall, unless his proposer or

seconder withdraws his name before the 28th February immediately preceding an election, be a candidate at such election ; his name shall be placed in alphabetical order with those of the new candidates to be announced in March following and his certificate shall be suspended along with those of the new candidates. Provided always that the same certificate shall not be valid for more than five successive elections. Corrections of fact may be made upon the certificate after it has been sent in, if initialled by the proposer and seconder, and marked unmistakably as new matter.

14. In cases in which the Council is of opinion that, in the interests of the advancement of Natural Knowledge, it is desirable that persons be elected Fellows of the Institute otherwise than as provided by Regulations 1 to 13 of these Regulations, they may recommend to the Institute for election persons, who, in their opinion, either have rendered conspicuous service to the cause of science in India, or are such that their election would be of signal benefit to the Institute. Provided that not more than two persons shall be so recommended in any calendar year, and if two persons be elected in any one year there shall be no election in the following year. The persons to be so recommended shall be selected by the Council by ballot, provided always that no person shall be so recommended unless he obtains two-thirds of the votes of the Members of the Council present and voting, the total number of votes registered in his favour being not less than seven.

At the Ordinary General Meeting of the Institute, next following the meeting of the Council at which such selection is made, the person or persons nominated shall be proposed for election by means of a certificate prepared in accordance with Regulation 1, no distinction, however, being made between personal and general knowledge. Such certificate, on being allowed by the Institute, shall be suspended in some convenient place in the rooms or office of the Institute until the day on which a ballot is taken upon it. The name of the person so proposed shall be posted to each Fellow for voting by a date given on the ballot paper. The result of the ballot shall be ascertained at the next meeting of the Council after the close of the ballot, following the procedure of Regulation 12.

APPENDIX VI

List of Papers Read at General Meetings

May 3, 1957

1. "The internal ballistics of a tapered-bore gun"—by J. N. Kapur. (Communicated by Dr. P. L. Bhatnagar).
2. "The equivalent charge method in the general theory of composite charges." II.—by J. N. Kapur. (Communicated by Dr. P. L. Bhatnagar).
3. "Chromosome studies in some Indian Barley. I."—by A. K. Sharma. (Communicated by Dr. G. P. Majumdar).
4. "Nodal anatomy and the vascular system of the shoot of rice plant (Oryza Sativa L)"—by G. P. Majumdar and B. Saha.
5. "Internal Ballistics of H/L Gun"—by J. N. Kapur (Communicated by Dr. P. L. Bhatnagar).
6. "Studies on the Physiology of Rice, Part XII."—by S. M. Sircar and A. N. Lahiri.
7. "A relativistic analogue of a simple Newtonian Result"—by S. R. Roy. (Communicated by Prof. V. V. Narlikar).
8. "Thermal stresses in a semi-infinite elastic solid due to periodic temperature distribution over a portion of its plane surface"—by Brahmadev Sharma. (Communicated by Prof. B. Sen).
9. "Pleistocene and later movements of the shore lines and C'."—by M. S. Krishnan and K. Jacob.
10. "Equation of state of elements from the relativistic Thomas-Fermi (Case of extreme degeneracy).—By V. Swarup Mathur. (Communicated by Prof. F. C. Auluck).
11. "An extract analytic solution of equations for an explosion with spherical Symmetry".—by G. Deb Ray (Communicated by Prof. N. R. Sen).
12. "A particular solution of the Field equations in Einstein's generalised theory of Gravitation."—by Ramji Tiwari. (Communicated by Prof. V. V. Narlikar).
13. "Effect of Rainfall on the yield of rice and evaluation of water requirements.—by M. N. Basak. (Communicated by Dr. J. N. Mukherjee).

August 2, 1957

1. "Ballistic effects of bore resistance"—by J. N. Kapur. (Communicated by Prof. P. L. Bhatnagar).
2. "Shifts in wave number of the electronic transitions due to substitution for Furan, Pyrrele and Thiophane"—by V. Santhamma. (Communicated by Dr. K. R. Rao).
3. "Development of the skull in Catfishes. Pt.I. Development of chondrocraniums in Silonia, Pangasius and Ailia, (Schilveidae)"—by H. R. Srinivasachar. (Communicated by Prof. G. P. Majumdar).
4. "Partitions of Bipartite Numbers when the summands are unequal"—by Miss S. M. Luthra. (Communicated by Dr. F. C. Auluck).

5. "On the average number of summands in partition of n"—by Miss S. M. Luthra. (Communicated by Dr. F. C. Auluck).
6. "On the non-summability of the conjugate series of Fourier series"—by S. R. Sinha. (Communicated by Dr. B. N. Prasad).
7. The occurrence and activities of certain bacterial groups in off shore marine environments of Gulf of Mannar, off Tuticorin"—by R. Venkataraman and A. Srinivasan. (Communicated by Dr. N. K. Panikkar).
8. "Waveform Studies of electric field changes during cloud to cloud lightning discharges"—by B. A. P. Tantry, R. S. Srivastava and S. R. Khastgir.
9. "Some properties of automorphic equivalents of vectors in a Kaehler hyper surface"—by G. Halder and Ram Behari.
10. "On the guiding curves of a rectilinear congruence"—by P. Jha. (Communicated by Prof. Ram Behari).
11. "The atrioventricular bundle in the heart of the banded Krait Bungarus fasciatus"—by R. Prakash. (Communicated by Dr. K. N. Bagchi).
12. "On Chandrasekhar's theory of turbulence"—by P. C. Jain. (Communicated by Dr. F. C. Auluck).
13. "A contribution to the knowledge of the Diametomaceae of Kanya Kumari (Cape Comorin)"—by G. S. Venkataraman. (Communicated by M. S. Randhawa).
14. "The petrography and petrogenesis of forty-eight flows of Deccan Trap penetrated borings in Western India"—by W. D. West.
15. "Behaviour of the Rock Bees, *Apis dorsata* Fabr. during a partial solar eclipse in India"—by M. L. Roonwal.
16. "Life History of *Barbula Indica* Bridel"—by I. Banerji.
17. "Studies on the biology of the Indian freshwater eel *Anguilla bengalensis* Gray"—by V. R. Pantulu (Communicated by Dr. B. S. Bhimachar).
18. "On the biology of *Auricularia-auricula audae* (Linn.) Schoroet causing rot in elder (Sambucus nigra L)"—by S. Banerjee (Communicated by Prof. G. P. Majumdar).
19. "On localized axisymmetric turbulence"—by K. M. Ghosh. (Communicated by Prof. N. R. Sen).
20. "Studies on the Physiology of Rice. XIII—Distribution of free auxin in different organs of the plant"—by S. M. Sircar and Miss M. Chakraborty.

October 7, 1957

1. "Oxygen requirements of fry of the Indian Major Carp, *Labeo rohita* (Hamilton)"—by M. P. Motawani and B. B. Bose. (Communicated by Dr. B. S. Bhimachar).
2. "Motion induced by a sphere vibrating along the axis of rotation of an infinite rotating liquid"—by D. Mullick. (Communicated by Prof. N. R. Sen).
3. "On the phyllosoma of Mandapam"—by Raghu Prasad and P. R. Sadasivan Thampi. (Communicated by Dr. N. K. Panikkar)
4. "An expression for the growth-coefficient 'a' in the law $y=bx$ of constant differential growth ratio, expressing the growth relationship

between the body size x and the origin size y, in various organic forms" —by R. K. Misra. (Communicated by Dr. W. D. West).

5. "Histochemical studies on acid and alkaline phosphatases, desoxyribonucleic acid and ribonucleric acid contents of tissues of normal and scorbutic guinea pigs"—by Chandicharan Deb and Sachchidananda Banerjee.
6. "Santal sibs—their traditional history observed intermarriage frequencies" —by K. P. Chattopadhyay.
7. "Further report on the fossil microflora from the Mohgaon Kalan beds of the Madhya Pradesh, India"—by S. D. Chitaley. (Communicated by Prof. G. P. Majumdar).
8. "Solution of equations of internal ballistics for power law of burning"— by J. N. Kapur (Communicated by Dr. P. L. Bhatnagar).
9. 'Lagranges' ballistics problem for unorthodox (H/L,R.C.L.) guns and solid fuel rockets"—by J. N. Kapur (Communicated by Dr. P. L. Bhatnagar).
10. "Maximal covering domins"—by R. P. Bambah.
11. "Firing characteristics of halogen quenched Geiger-Muller counters"—by S. P. Puri and P. S. Gill.
12. "On decay of energy spectrum of isotropic turbulence"—by N. R. Sen.
13. "The 'translativity' problem for quasi-Hansdroff method of summability" —by M. S. Ramanujan. (Communicated by Dr. B. N. Prasad).

December 6, 1957

1. "A radiating mass particle in an expanding universe"—by P. C. Vaidya and K. B. Shah. (Communicated by Prof V. V. Narlikar).
2. "A dynamic treatment of the problem of pressure estimation in impact sensitivity experiments on explosives"—by M. P. Murgai and A. K. Ray. (Communicated by Dr. R. S. Varma).
3. "On the stability of a gravitating sphere in a magnetic field"—by R. K. Jaggi. (Communicated by Prof. F. C. Auluck).
4. "On the theory of daltonides and bertollides"—by G. B. Bokij. (Communicated by Prof. D. S. Kothari).
5. "Physico-chemical analysis of aqueous solutions of nickel and copper ammonia complexes"—by K. B. Jatsimirsky, Z. M. Grafova and E. E. Natan. (Communicated by Prof. D. S. Kothari).
6. "On some congruences of idempotent matrices"—oy N. A. Khan. (Communicated by Dr. S. M. Shah).
7. "Density fluctuations in turbulence in an inviscid compressible fluid"— by P. C. Jain. (Communicated by Prof. F. C. Auluck).
8. "Wave resistance of a ship moving in a circular path"—by R. N. Bhattacharyya. (Communicated by Dr. N. R. Sen).
9. "Infrared intensities and the nature of the chemical bond. Part I. Variation of hybridization with bond length in SO_2, NH_3, and PH_3"—by P. T. Narasimhan. (Communicated by Prof. R. S. Krishnan).
10. "Dipole moments of staurated dicarboxylic acids"—by P. T. Narasimhan. (Communicated by Prof. R. S. Krishnan).
11. "A theorem on Meijer transform and infinite integrals involving G-function and Bessel functions"—by K. C. Sharma. (Communicated by Dr. R. S. Varma).

12. "Studies on the penetration of light in the Bay of Bengal. Part I. Transparency of the waters on the east coast of India and its significance" —by T. S. Satyanarayana Rao. (Communicated by Dr. H. S. Rao).

13. "Production of ultraviolet induced mutations in *Fusarium vasinfectum* with special reference to fusaric acid synthesis"—by C. S. Venkata Ram. (Communicated by Prof. T. S. Sadasivan).

14. "The effect of 19-nortestosterone on the genital organs and pregnancy in rats"—by Amiya B. Kar. (Communicated bv Dr. B. Mukerji).

15. "Comparative morphology and ontogeny of foliar sclereids in seed plants. II. *Linociers* Swartz"—by T. Ananda Rao. (Communicated by Prof. P. Maheshwari).

16. "A new approach to the study of growth-gradient in the segments of the second pair of chelipeds of the Indian freshwater prawns, *Palaemon* hendersoni DeMan (Crustacea: Decapoda Palaemonidae)"—by R. K. Misra. (Communicated by Dr. W. D. West).

17. "Soils of West Bengal"—by P. Chakravarti and Miss S. Chakravarti. (Communicated by Dr. R. N. Chakravarti).

18. "The extension of larval duration in *Trogoderma granarium*, Everts after DDT treatment"—by H. Shantaram. (Communicated by Dr. M. L. Bhatia).

19. "Studies on the site of conversion of pteroyl glutamic acid to citrovorum factor in rats"—by Sachchidananda Banerji and Sunil Kumar Pain.

20. "The chromosomes of *Thelyphonous indicus* Stoliczka"—by A. R. Kasturi Bai and M. D. Parthasarathi (Communicated by Prof. B. R. Seshachar).

21. "Morphological and cytological Studies in *Uromyces hobsoni* vize"—by M. M. Payak (Communicated by Prof. S. P. Agharkar).

January 5, 1958

1 "Mineragraphic study of the manganese ores of Tirodi, Balaghat District, Madhya Pradesh, India"—by S. Roy. (Communicated by Dr. S. Deb).

2. "Chromite ores associated with the ultrabasic rocks of Nausahi, Keonjhar District, Orissa, India"—by K. L. Chakraborty. (Communicated by Dr. S. Deb).

3. "On the absolute Riesz summability of Fourier series, its conjugate series and their derived series"—by S. R. Sinha. (Communicated by Dr. B. N. Prasad).

4. "On summability factors"—by (Miss) Pramilla Srivastava. (Communicated by Dr. B. N. Prasad).

5. "The summability factors of a Fourier series and the series conjugate to it"—by (Miss) Pramilla Srivastava. (Communicated by Dr. B. N. Prasad).

6. "Determination of the jump of a function by its Fourier series"—by (Miss) Sulaxana Kumari. (Communicated by Dr. B. N. Prasad).

7. "An exact solution of a spherical blast wave under terrestrial conditions"— by G. Deb Ray. (Communicated by Prof. N. R. Sen).

8. "Interrelation between respiration, net assimilation rate, organic and inorganic phosphorus under phosphorus deficiency conditions"—by K. N. Lal & J. N. Singh. (Communicated by Dr. R. Misra).

9. "Cytological studies in Indian mosses-IV. Funaria calvescens Schw., Bryum cellulare Hook, B. ramosum (Hook) Mitt., B. pseudo-pachytheca C. Mull., Pohlia elongata Hedw and P. flexuosa Hook."—by S. K. Pande and Narinder Chopra. (Communicated by Dr. G. P. Majumdar).

10. "Cytology of some Blechnoid ferns together with a note on the affinities of Stenochlaena"—by P. N. Mehra and S. S. Bir.

11. "Chemical composition of the shell of external and internal parasitic eggs (Hymenoptera) and their host eggs and penetration of chemicals through it"—by Rattan Lal. (Communicated by Dr. Vishwa Nath).

12. "Studies on the cytology and phylogeny of the pteriodophytes. II. Observations on the genus Lycopodium"—by C. A. Ninan. (Communicated by Prof. P. Maheshwari).

13. "Genus Riccia in India—II. Species of Riccia from South India with description of a new species and notes on the synonymy of some recently described ones"— By S. K. Pane and Ram Udar. (Communicated by Dr. G. P. Majumdar).

March, 17, 1958.

1. "On interrelation between spectral number and ultrasonic wattage from Raman and Nath's theory"—by K. Samal. (Communicated by Prof. A.K. Dutta).

2. "Chemical shifts and electron densities in substituted benzenes"—by Sadhan Basu and (Miss) Jayanti Nag Chaudhuri. (Communicated by Prof. B. N. Ghosh).

3. "Waveforms of atmospherics"—by B.A.P. Tantry and R. S. Srivastava. (Communicated by Prof. S. R. Khastgir).

4. "A note on explosives with modified trumpet liners"—by Sampooran Singh. (Communicated by Prof. D. S. Kothari).

5. "Some further considerations of the effects of variations in loading conditions on internal ballistics of guns"—by V. B. Tawakley. (Communicated by Dr. R. S. Varma).

6. "Final period decay-law in the case of longitudinally homogeneous turbulence with symmetry about a localised axis"—by K. M. Ghosh. (Communicated by Prof. N. R. Sen).

7. "Effects of gibberellic acid on the flowering of *Sesamum indicum* L."—by S. C. Chakravarti and N. J. Abraham. (Communicated by Prof. G. P. Majumdar).

8. "The vegetation of marshes and swamps in Poona District"—by G. S. Puri and S. D. Mahajan. (Communicated by Prof. R. Misra).

9. "The Study of dry scrub vegetation under forest management at Dhond, Poona"—by G.S. Puri and S.K. Jain. (Communicated by Prof. R. Misra).

10. "Additions and corrections to the Indo-Nepalese flora"—by Dr. H. Santapau).

11. "Location of the olfactory receptors of the blowfly *Phormia regina* Meigen"—by K N. Saxena. (Communicated by Prof. M. L. Bhatia).

12. "Inconstancy in chromosome complements in species of *Maranta* and Calathea"—by A. K. Sharma and N.K. Bhattacharyya. (Communicated by Prof. G. P. Majumdar).

13. "Utilization and synthesis of oligosaccharides by two species of Pestalotia"—by R. N. Tandon and K. S. Bilgrami (Communicated by Prof. P. Maheshwari).

14. "A new method for the classification of the climates of the arid and semi-arid regions"—by G.Y. Shanbhag (Communicated by Dr. F.R. Bharucha).

15. "Histological study of the specialised tissue of the avian heart"—by Taj Singh. (Communicated by Prof. J. L. Bhaduri).

16. "Development of the skull in catfishes. Part V. Development of skull in Heteropneustes fossilis (Bloch)"—by H.R. Srinivasachar. (Communicated by Prof. B. R. Seshachar).

APPENDIX VII

International Unions and Conferences

A list of international scientific and technical conferences which were held in South and South East Asia during the year 1957-58, is given below :—

XIVth International Congress of the International Union against Tuberculosis.

Symposium on 'Genetics and Plant Breeding with particular reference to South East Asia' (Convened by Unesco South Asia Science Co-operation Office).

Conference on Rural Health (W.H.O.).

Regional Seminar on the Production of Reading Materials (Convened by the Burmese Government and Unesco).

Symposium on 'Soil Erosion and its Control in the Arid and Semi Arid Zones' (Convened by the Government of Pakistan and subsidized by Unesco).

7th Congress-Pan Pacific Surgical Association.

Regional Seminar on "International Standardization of Educational Statistics for South East Asia and the Far East" (Convened jointly by the Government of Thailand and Unesco).

International Symposium on 'Upwelling' (Pacific Science Association).

Symposium on "Phytochemistry of Tropical Plants" (Convened by Unesco South East Asia Science Co-operation office).

Symposium on "Recent Researches in Rare Metals" (Convened jointly by Indian Institute of Metals and Unesco South Asia Science Co-operation Office).

The names of the Ordinary Fellows of the Institute who attended various International Conferences are shown below :—

Executive Committee of International Mathematical Union (Zurich)	April, 1957	Prof. K. Chandrasekharan
Eighth Meeting of Executive Council of World Meteorological Organisation (Geneva)	April, 1957	Sri S. Basu
International Colloquium on Harmonic Analysis (Warsaw)	May, 1957	Prof. K. Chandrasekharan
Annual Meeting of the W.H.O. (Geneva)	May, 1957	Dr. A. C. Ukil

International Organization for Standardisation Technical Committee (ISO/TC) 19 Preferred Numbers (Paris)	June, 1957	Dr. L. C. Verman
International Electrotechnical Commission (IEC) Sub-Committee-2 B Working Group on Electric Motor Dimensions (Brussels)	June, 1957	Dr. L. C. Verman
I S O Standing Committee for the study of Scientific Principles of Standardization (STACO) (Lisbon)	June, 1957	Dr. L. C. Verman
Histological Definitions of Cancer Types convened by W.H.O. (Oslo)	June, 1957	Dr. P N. Wahi
Lectures in China at the invitation of Chinese Statistical Bureau Planning Commission Peking University and People's University.	June, 1957	Prof. P. C. Mahalanobis
Second All Union Symposium on Anti-Biotics. (Moscow)	June, 1957	Dr. S. S. Sokhey
Commission for Instruments and Methods of Observation of the World Meteorological Organisation (Paris)	June, 1957	Sri. S. P. Venkiteshwaran
Seventh Session of the F. A. O. Technical Advisory Committee on Desert Locust Control and the Fourth Session of the F.A.O. Desert Locust Control Committee (Tangier, Morocco)	June, 1957	Dr. K. B. Lal
International Conference on Food Additives under joint auspices of F.A.O./W.H.O. (Rome)	June, 1957	Dr. B. Mukerji
W.H.O. Technical Conference on Insect Resistance (Geneva)	July, 1957	Lt.-Col. Jaswant Singh
I.E.C. Grouped Meetings including the Committee of Action, Electric Motors, Cables and Primary Cells (Moscow)	July, 1957	Dr. L. C. Verman
I.S.O. Planning Committee (PLACO) ISO Council and Working Group on Agricultural Products (Geneva)	July, 1957	Dr. L. C. Verman
Sub-Committee on Tests for Contraceptives organised bv International Planned Parenthood Federation (Exeter, U.K.)	July, 1957	Dr. V. R. Khanolkar

International Organisations of Medical Sciences (Paris)	July, 1957	Dr. V. R. Khanolkar
IInd International Symposium Mammary Cancer (Perugia, Italy)	July, 1957	Dr. V. R. Khanolkar
U.N Scientific Committee on the Effects of Atomic Radiation (Geneva)	July, 1957	Dr. V. R. Khanolkar
Ist Session of International Advisory Committee on Humid Tropics Research (of UNESCO)	July, 1957	Dr. M. L. Roonwal
ISO/TC 85 Nuclear Energy (attended as observer) (Geneva)	Aug. 1957	Dr. L. C. Verman
30th Session of the International Statistical Institute (Stockholm)	Aug. 1957	Prof. P. C. Mahalanobis
Institute of Economics of the USSR Academy of Sciences and Council of Methodology of Central Statistical Board (Moscow)	Aug. 1957	Prof. P. C. Mahalanobis*
General Assembly of the International Union of Radio Sciences (Boulder-Colorado)	Aug. 1957	Dr. K. R. Ramanathan
International Conference on Analytic Functions (Princeton)	Sept. 1957	Dr. K. Chandrasekharan
Council of the International Union against Tuberculosis (Paris)	Sept. 1957	Dr. A. C. Ukil
International Conference on operational Research (Oxford)	Sept. 1957	Prof. P. C. Mahalanobis
XI General Assembly of International Union of Geodesy and Geophysics (Toronto)	Sept. 1957	Dr. K. R. Ramanathan
Meetings of British Association for the Advancement of Science (Dublin)	Sept. 1957	Dr. B. M. Johri
119th Anuual Session of the British Association for the Advancement of Science (Dublin)	Sept. 1957	Prof. M. S. Thacker
9th Meeting of Executive Council of World Meteorological Organisation (Geneva)	Sep.-Oct. 1957	Sri S. Basu
Study Group on Atherosclerosis Convened by W.H.O and National Institute of Heart Diseases (Washington)	Oct. 1957	Dr. P. N. Wahi

*Also elected Foreign Member of the USSR Academy of Sciences.

International Symposium Enzyme Chemistry. (Tokyo and Kyoto)	Oct. 1957	Dr. K. V. Giri Dr. B. C. Guha
International Symposium on Chemotherapy of Cancer organised by the Union Internationale Centre le Cancer (Tokyo)	Oct. 1957	Dr. V. R. Khanolkar
XIX International Red Cross Conference (New Delhi)	Oct. 1957	Dr. L. C. Verman
Pan-Indian Ocean Science Association (Tananarive, Madagascar)	Oct -Nov. 1957	Dr. P. K. Ghosh
Second World Metallurgical Congress (Chicago)	Oct.-Nov. 1957	Dr. B. R. Nijhawan
6th National Conference convened by United States National Commission for UNESCO	Nov. 1957	Sri Nirmal Kumar Bose
Expert Committee on Insecticides (Seventh Session of W.H.O. (Geneva)	Nov. 1957	Dr. T. Ramachandra Rao
Meeting of a W.H.O. Expert Committee on Professional and Technical Education (Geneva)	Nov. 1957	Dr. V. R. Khanolkar
Sub-Committee on Mineral Resources Development of the Economic Commission for Asia and Far East	Nov. 1957	Sri V. P. Sondhi
Fifty-sixth Annual Meeting of the American Anthropological Association (Chicago)	Dec. 1957	Sri Nirmal Kumar Bose
Second Meeting of the F.A.O. Plant Protection Committee held under Plant Protection Agreement for South East Asia and Pacific Region (Kendy)	Dec. 1957	Dr. K. B. Lal
Fifth Session of Joint FAO/W.H.O. Expert Committee on Nutrition (Rome)	1957	Dr. V. N. Patwardhan
Visiting Professor to U.S. under Wheat Loan Educational Exchange Programme (U.S.A.)	57-58	Dr. P. N. Mehra
U.N. Scientific Committee on Effects of Atomic Radiation (New York)	Jan. 1958	Dr. V. R. Khanolkar
Economic Commission for Asia and Far East Seminar on Low Cost Roads (Delhi)	Jan. 1958	Dr. S. R. Mehra

Symposium on Monsoons of the World (New Delhi)	Feb. 1958	Dr. K. R. Ramanathan
Tenth Session of the Committee on Industry and Natural Resources of ECAFE	Feb -Mar. 1958	Dr. B. C. Roy
Seminar on the Comparative Study of Civilisations (Stanford, California)	Mar. 1958	Sri Nirmal Kumar Bose
W.H O. Seminar on Resistance of Insects to Insecticides (New Delhi)	Feb.-Mar. 1958	Jaswant Singh
International Party of Commission for Geological Map of the World (Paris)	Mar.-Apr. 1958	Sri V. P. Sondhi
Working Party of Senior Geologists for preparation of Regional Geological and Mineral Maps for Asia and Far East.	...	Sri V. P. Sondhi

APPENDIX VIII

(Refers to para 5.12 of Report)

Memorandum on points for consideration at the Special Council Meeting on 9 and 10 April, 1958

1. *Grants from Government* ; It is desirable to clarify the following basic principles for acceptance of grants from Government :

(a) As regards assignments (as distinguished from internal activities) NISI should be able to do the work more effectively than a Government agency.

(b) The amount of the grant should be adequate to cover not only the direct expenditure but also necessary administrative and secretariat expenses.

(c) Once the grant is sanctioned NISI should have freedom to incur necessary expenditure subject only to proper fulfilment of objectives.

2. *Advice to Government* :

(a) There should be a clear demarcation of responsibilities. In recommending grants to scientific societies, for example, NISI may be asked to prepare a list within an assigned limit of expenditure.

(b) In making nominations of individual scientists, for example, for delegations or for membership of committees etc., it should be clear whether NISI recommendations are likely to be generally accepted by Government or NISI nominations are invited merely as proposals among many others.

(c) In electing representatives on Government Committees it should be made clear whether NISI is functioning as an Electoral College or whether the NISI representative would be called upon to submit the views and recommendations of the NISI as a whole. In the latter case, NISI should set up suitable machinery to serve this purpose.

3. *Research Fellowships* : It is generally agreed that the method of selection has not been always satisfactory in that there have been a great many resignations; and there is need of reorientation with greater flexibility in the type of research and amount of grant. Proposals were to be invited for detailed consideration.

4. *Grant to scientific and learned societies* : It is agreed that existing arrangements are not entirely satisfactory, the responsibility of NISI not being clearly specified. Also, NISI will have to improve the machinery to discharge its responsibility satisfactorily.

(a) If the present system is to continue, NISI may be asked to make recommendations up to a total amount not exceeding a limit set by Government. Also, suitable machinery should be set up to make a proper appreciation of needs and possibllities of effective utilization of recommended grants.

(b) Alternative methods of helping scientific and learned societies may also be explored, such as, providing sub-editing and publication services, library services, arranging joint meetings and conferences, etc.

5. *Research facilities for retired scientists* : Can NISI help in any way? The President is an ex-officio member of the CSIR Committee; should he act in an individual capacity or transmit the views of NISI ? In the latter case, suitable machinery requires to be set up.

6. *Publications* : An *ad hoc* Committee, appointed at the Calcutta meeting in March 1958, is actively considering a proposal to establish a permanent whole-time staff of assistant editors to look after the work of sub-editing, preparation of press copy, proof corrections, and publications under the guidance and supervision of the Editor of Publications in scientific matters and arrangements for proper "refereeing" of the papers. Necessary grants would have to be secured for this purpose.

7. *Library service* : Following broad proposals have been made for the implementation of which some funds would be required, and suitable machinery would have to be set up :—

(a) to compile and maintain a bibliography of papers and scientific reports and publications by scientists working in India and by Indian scientists working abroad ;

(b) to collect reprints or micro-film copies of important papers and publications by Fellows of the NISI and other scientists working in India and by Indian scientists working outside India ;

(c) to collect original issues or micro-film copies of rare and important scientific publications printed in India ;

(d) to collect important scientific encylopaedias, books of references, Journals, collected works etc., published outside India ; and

(e) to organize inter-society and inter-institution library service to avoid unnecessary duplication of purchase of foreign publications.

8. *Election of Fellow of the NISI* : Certain changes have been made in the Rules but this is not enough. It is necessary to compile relevant information in advance which may include :—

(a) a register of all scientists engaged in research or important scientific and technological projects in India and of Indian scientists engaged in similar work outside India ;

(b) a complete bibliography of research papers and reports on seientific and technological projects by scientists working in India and by Indian scientists working abroad ;

(c) a preliminary list of persons for informal consideration for nomination for election as Fellows together with details of their scientific career, their papers and reports and other relevant information.

9. *Visits of foreign scientists* : Enquiries are sometimes received by NISI whether any help can be given to enable distinguished foreign scientists to visit

India or to stay here for some time on their way to other countries. Can NISI do anything in this connection ?

10. *Building*: Action has been taken by the Council to proceed with construction work to meet immediate needs. It is hoped Government would release a part of the grant sanctioned for buildings to meet this expenditure.

11. *Promotion of national welfare*: Item (a) in Rule 2 of the NISI on its objects includes the practical application of knowledge to problems of national welfare. Can NISI help in planning for national development by (a) preparing proposals and schemes; (b) participation in discussions and offering independent criticisms and advice on Government proposals and schemes; and (c) helping in the assessment of implementation of sanctioned schemes. In the context of this, can NISI take any effective action in regard to the improvement of science teaching in the country.

12. *Coordination of activities of scientific academies, societies, institutions, and Government scientific departments.* [Item (b) of aims and objects of NISI]: What responsibilities can NISI assume in this matter ?

13. *Promotion and safeguarding the interest of scientists and representing internationally the scientific work in India.* [Object (c)]: To what extent and how NISI discharge its responsibility in these matters ?

14. Coordination of research and information on current research [Object (d)]: Can NISI help in any way ?

15. *Promotion of liaison between Science and Letters.* [Object (f)]: What can NISI do in this regard ?

APPENDIX IX

List of additions to the Library from 1-4-57 to 31-3-58.

(Arranged according to U.D.C. System of Classification.)

0/3 General. Philosophy. Social Sciences.

British Standards Institution. Universal Decimal Classification. B.S. 1000-57. The Institution. 1957. 252 p.

Simon, Herbert A. Models of Man;—Social and rational. Wiley. 287 p.

Shapiro, Harry, L. Man, culture and society. Oxford. 1956. 380 p.

Meirer, Richard L. Science and economic development. Wiley. 1956. 266 p.

Needham, Joseph. Science and civilisation in China, Vol. II. Cambridge. 1956. 697 p.

Royal Society. Year book of the Royal Society of London. 1957. The Society. 1957. 359 p.

Spengler, Joseph J., and Duncan, Otis Dudley, *ed.* Demographic Analysis. Selected readings. Free Press. 1956. 819 p.

Hawkins, R, R. *ed.* Scientific, medical and technical books published in the U.S.A. 1930-1944. Prepared under the direction of the National Research Council Committee in Bibliography. 1946. 1114 p.

Kendall, Maurice G,, and Buckland, W. R. A dictionary of statistical terms. International Statistics Institute. 1957. 493 p.

Francis, F. C., add Aslib. British Scientific and technical books, a select list of recommended books published in Great Britain and the Commonwealth in the years 1935-1952. London. Aslib. 1956. 364 p.

Encyclopaedia Brittanica. Brittanica book of the year 1957. Encyclo. Brittanica. 1957. 532 p

Illingsworth, Ronald S. The normal child. Churchil. 1957. 356 p.

Piddington, Ralph. An introduction to Social Anthropology. Boyd 1947. 819 p.

Savill, Max. A history of World civilisation. Vol. 1. Holt. 1957. 722 p.

Saville, Max. A history of world civilisation. Vol. 2. Holt 1957. 748 p.

Huxley, Julian. New bottle for new wine. Windus. 1957. 318 p.

Hertzler, J. O. The crises in World population. Univ. of Nebraska. 1956. 279 p.

Firth, Raymond, *ed.* Man and culture. Routledge. 1957. 368 p.

Childe, V. Gordon. The dawn of European civilisation. Routledge. 1957. 292 p.

Cuthbert, C. R. M. Science and the detection of crime. Hutchinson. 1958. 244 p.

Korol, Alexander G. Soviet education for science and technology.

5. Genenral Science

Jeffreys, Harold. Scientific inference. Cambridge. 1957. 236 p.

Russell, Bertrand and others. What is Science ? Gollancz. 1956. 493 p.

Hall, Everett W. Modern science and human values. Nostrand. 1956. 483 p.

FRANK, Philipp. Philosophy of science ;—the link between science and philosophy. Prentice Hall. 1957. 394 p.

BUTLER, J. A. V. Science and human life. Pergamon Press. 1957. 162 p.

FRANK, Philipp G. The validation of scientific theories. Beacon Press. 1956. 242 p.

TAYLOR, Hugh et al. *ed.* Science in Progress, Vol. X. Yale. 1957. 253 p.

SANTILLANA, Giorgio *ed.* The crime of Galileo. Heinmann. 1958. 339 p.

NEURATH, Otto, et al. *ed.* International encyclopedia of unified science, Vol. 1 (1). Chicago University press. 1955. 339 p.

NEURATH, Otto, et al. *ed.* International encyclopedia of unified science. Vol. 1 (1) Chicago. 1955. 342-760 p.

KORNER, S., et al. *ed.* Observations and interpretations ;—A Symposium of Philosophers and Physicists, Proceeding of the 9th Symposium of the Colston Research Society. 1057. Butterworth. 1957. 218 p.

TATON, R. Reason and chance in scientific discovery. Hutchinson. 1957. 171 p.

HILDEBRAND, Joel H. Science in the making. Hutchinson. 1958. 244 p.

51. MATHEMATICS

YANO, Kentaro. The theory of Lie derivatives and its applications. N. Holland Pub. Co. 1955. 299 p.

FOX, R. H., SPENCER, D. C. and TUCKER, A. W. Algebraic geometry and topologn. Princeton. 1957. 399 p.

ARTIN, E. Geometric Algebra. Interscience. 1957. 214 p.

PEARCEY, T. Tables of Fresnal integrals to six decimal places. Cambridge. 1956. 63 p.

PETERS, Dr. J. Ten place logarithm tables. Vol. 1. of the numbers 1—100,00. New York. Ungar. 1957. 607 plus 195 p.

PETERS, Dr. J. Ten place logarithm tables. Vol. II. 10 place logarithm of the trignometric function to 0°—90° for every thousandth of a degree. Ungar. 1957. 901 p.

PETERS, Dr. J. Ten places logarithm tab'es. Auxiliary tables to ten place logarithm tables. Ungar. 1957. 53 p.

MEYER, H. A. *ed.* Symposium on Monte Carlo methods. Wiley. 1956. 381 p.

PATZ, Wilhelm. Tafel der Regel massingen Kettenbruche und ihrer Vollstandingon quotienten fur die Quadratwurzein aus den Naturlichen Zahlon, von 1—100,00. Akad. Verlag. 1955. 1210 p.

BUCKINGHAM, R. A. Numerical methods. Pitman. 1957. 597 p.

KERSHNER, R. B., and WILCOX, L. R. The anatomy of mathematics. Ronald Press. 1950. 416 p.

ATKINS, R. H. Mathematics and wave mechanics. Heinmann. 1956. 348 p.

RADEMACHER. Hans and TOEPLILZ, Otto. The enjoyment of mathematics. Princeton. 1957. 204 p.

FINNEY, D. J. Experimenial design and its statistical basis. Chicago. 1955. 169 p.

ASHBY, W. R. et al. Automata studies. (Vol. 34 of Annals of mathematics studies). Princeton. 1956. 285 p.

BERGMAN, S. Contributions to theory of partial differential equations, Princeton. 1954. 257 p.

BERNSTEIN, Dorothy L. Existence theorems in partial differential equations. Princeton. 1950. 228 p.

AHLFORS, L. et al. Contributions to the theory of rieman surfaces. Princeton. 1953. 264 p.

NEUMAN, John von. Functional operators. Princeton. 1950. 261 p.

BOCHNER, S. and CHANDERSEKHARAN, K. Fourier transforms. Princeton. 1949. 219 p.

LEFSCHETZ, Solomon. Contributions to the theory of non-linear oscillations. Princeton. 1950. 350 p.

WEYL, Herman. Algebraic theory of numbers Princeton. 1940. 223 p.

MORSE, Marston. Topological methods in the theory of functions of a complex variable. Princeton. 1947. 145 p.

LEFSCHETZ, Solomon. Topics in topology. Princeton. 1942. 137 p.

POLYA, G., and Szego, G. Isoperimetric inequalities in mathematical physics. Princeton. 1951. 273 p.

NEUMAN, John von. Functional operators. Princeton. 1950. 107 p.

WALSH, J. L. The location of critical points of analytic and harmonic functions. American Mathematical Society. 1950. 384 p.

WALKER, Robert J. Algebraic curves. Princeton. 1950. 201 p.

WEYL, Herman, Classical groups. Princeton. 1946. 320 p.

WIDDER, David Vernon. The Laplace transform. Princeton. 1946. 406 p.

EISENHART, L. F. An introduction to differential geometry. Princeton. 1947. 304 p.

WHITNEY, Hassler. Geometric integration theory. Princeton. 1957. 387 p.

CARTAN, Henri and EILENBRG, Samuel. Homological algebra. Princeton. 1956. 390 p.

BOCHNER, Solomon and MARTIN, W. Ted. Several complex variables. Princeton. 1948. 216 p.

CRAMER, Harold. Mathematical methods of statistics. Princeton. 1957. 575 p.

CHURCH, Alonzo. Introduction to mathematical logic. Vol. 1. Princeton. 1956. 376 p.

LEFSCHETZ, Solomon. Introduction to topology. Princeton 1954. 218 p.

CHEVALLEY, Claude. Theory of Lie groups. Princeton. 1946. 217 p.

DOETSCH, G. Handbook der Laplace transformations. Band III (2) Birkhauser. 1956. 300 p.

LEHMER, Derrick Norman. List of prime numbers from 1—10,006,721. Hafner. 1956. 133 p.

LEHMAR, Derrick Norman. Factor tables for the first ten millions. Hafner. 1956. 476 p.

MYSCHKIS, A.D. Lineare differential gleichungen mit nachielendum argument. Deutscher Verleg. 1955. 180 p.

MACCOLL, L.A. *ed.* Applied probability, Vol. VII. Proceedings of the VIIth Symposium in Applied Mathematics of the American Mathematical Society. McGraw Hill. 1957. 104 p.

SYNGE, J.L. The hyper circle in mathematical physics. Cambridge Univ. 1957. 424 p.

LJUSTERNIK, L.A., and SOBOLEV, W.I. Elements der Functional-analysis. Acad. Verlag. 1955. 256 p.

ALEXANDEROFF, P.S. Einfuhrung in die Mengenlehre undie Theorie der Reelen Funktionen. Deutscher Verlag. 1956. 279 p.

GELFAND, I.M., and NEUMARK, M.A. Unitare Darstellungen der Classischen Gruppen. Acad. Verlag. 1957. 333 p.

SPRINGER, George. Introduction to Rieman surfaces. Addison-Wesley Corp. 1957. 307 p.

LUCE, R. Duncan and RAIFFA, Howard. Games and decisions. Wiley. 1957. 209 p.

OSGOOD, Charles E., and others. The measurement of meaning. Illinois Univ. 1957. 342 p.

SCHROCK, Edward M. Quality control and statistical methods. Reinhold. 1957. 246 p.

MISES, Richaid von. Probability statistics and truth. Allen. 1957. 241 p.

RESNIKOFF, George J., and LIBERMAN, Gerald J. Tables of non-central t-distribution. Stanford. 1957. 389 p.

KOTANI, M., and others. Tables of molecular integrals. Maruzen Co., 1955. 230 p.

52 ASTRONOMY

DUFAY, Jean; tr. by POMERANS, A.J. Galactic nebulae and interstellar matter. Hutchinson. 1957. 352 p.

VANCOULEURS, G. de. Discovery of the universe. Faber. 1957. 328 p.

BEER, A., *ed.* Vistas in astronomy. Vol. 2. Pergamon Press. 1956. 779-1770 p.

PAYNE-GAPOSCHKIN, C. The Galactic Novae. N. Holland. 1957. 336 p.

MOORE, Patrick. Guide to the planets. Spottiswoode. 1955. 222 p.

KAHN, Fritz. Design of the universe, the heavens and the earth. Arco. 1954. 373 p.

BIZONY, M.T., *ed.*, et al. The space encyclopedia. Artemis. 1957. 287 p.

SCIENTIFIC AMERICAN BOOK. The planet earth. Schuster. 1957. 168 p.

SCIENTIFIC AMERICAN BOOK The Universe. Schuster. 1957. 142 p.

BATES, D.R., *ed.* The planet earth. Pergamon. 1958. 312 p.

SHAPELY, Harlow. The inner metagalaxy. Yale. 1957. 204 p.

MOORE, Patrick. The amateur astronomer. Lutterworth. 1957. 317 p.

HERBIG, G. H. The non stable stars. Cambridge. 1957. 200 p.

53 PHYSICS

SHIH-I-PAI. Viscous flow theory. Vol. 2. Turbulent flow. Nostrand. 1957. 277 p.

KRAMERS, H.A. Quantum mechanics. N. Holland. 1957. 496 p.

DAVISON, B., with collaboration of SYKES, J.B. Neutron transport theory. Clarendon Press. 1957. 450 p.

GRAY, Dwight E., *ed.* et al. American Institute of Physics Handbook. McGraw Hill. 1957. 8-257 plus 48 p.

SMITH, R.A., JONES, F.E , and CHASMER, R.P. The detection and measurement of infra red radiation. Clarendon Press. 1957. 458 p. v pl.

MURRAY, Raymond L. Nuclear reactor physics. Prentice Hall. 1957. 317 p.

JONES, F. Llewellyn. The physics of electrical contacts. Clarendon Press. 1957. 219 p.

WILSON, A.H. Thermodynamics and statistical mechanics. Cambridge Univ. Press. 1957. 495 p.

CHINTSCHIN, A J. Mathematische Grundlagen der Quanten Statistik. Akad, Verlag. 1956. 200 p.

BLEANEY, B.J., and BLEANEY, B. Electricity and Magnetism. Oxford. 1957. 676. p.

BLIN-STOYLE, R. J. Theories of nuclear moments. Oxford. 1957. 89 p.

BOHM, David. Causality and chance in modern physics. Routledge. 1957. 170 p.

WILSON, J. G., *ed*,. et al. Progress in cosmic ray physics Vol. III. North Holland. 1956. 420 p.

CARAFOLI, Elie. The high speed ærodynamics. Editura technica, Bucharest. 1956. 710 p.

CURRY, C. Wave optics ; interference and diffraction. Arnold. 1957. 155 p.

HARTREE, Douglas R. The calculation of atomic structures. Wiley. 1957. 181 p.

SCHURE, Alexander, *ed*. Resonant circuits. Rider. 1957. 66 p.

HENISCH, H. K. Rectifying semi-conductor contacts. Clarendon Press. 1957. 372 p.

COWLING, T. G. Magnetohydrodynamics. Interscience. 1957. 115 p.

LEE, John Francis, and SEARS, Francis Weston. Thermodynamics. Addison-Wesley Corp. 1955. 543 p.

ROSSI, Optics.

GUGGENHEIM, E. A. Thermodynamics. N. Holland. 1957. 476 p.

FLUGGE, S. Handbook der Physik, Vol. XL (Nuclear reactions). Springer. 1957. 553 p.

GORTER, C. J., *ed*. Progress in low temperature physics. N. Holland. 1957. 480 p.

DONOVAN, A. F. and LAWRENCE, H. R. *ed*. Aerodynamic propulsion structures. Van Nostrand. 1956. 595 p.

FLUGGE, S. *ed*. Handbook der Physik. Springer.
Vol. XXXV. (Atoms). 1957. 454 p.
Vol. XXX. (X-Rays). 1957. 384 p.
Vol. XXXII. (Structural Research). 1957. 663 p.
Vol. XX. (Elec. Conductivity). 1957. 491 p.
Vol. XXI. (Electric Emmission. I). 1956. 683 p.
Vol. XV. (Low-temperature Physics). 1956. 477 p.

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GILMAN, Joseph C. Soil Fungi. Iowa State College. 1957. 450 p.

DICKSON, James G. Diseases of field crops. McGraw Hill. 1956. 517 p.

AZZI, Girolamo. Agricultural ecology. Constable. 1956. 424 p.

WAINE, Alan C. Background to bee keeping. Collingridge. 1955. 120 p.

HOPKINS, Donald P. Chemicals, humous and the soil. Faber. 1957. 288 p.

SAMPSON, Kathleen, and WESTERN, J. H. Diseases of British grasses and herbage legumes. Cambridge. 1954. 118 p.

JACOB, Cherian K. Madras bananas—a monograph. Supdt. Government Press, Madras. 1952. 228 p.

HARADA, Jiro. Japanese gardens. Studio Ltd., London. 1956. 160 p.

THOMPSON, Louis M. Soils and soil fertility. McGraw Hill. 1957. 451 p.

NORMAN, A. G., *ed.* and others. Advances in Agronomy, Vol. VIII. Academic Press. 1956. 423 p.

CORLEY, Hugh. Organic farming. Faber. 1957. 200 p.

BATES, W. N. Mechanisation of tropical crops. Temple Press. 1957. 410 p.

SMITH, Kenneth. A textbook of plant virus diseases. Churchil. 1957. 652 p.

WHITEHEAD, Stanley B. Everyman's encyclopedia of gardening. Dent. 1957. 786 p.

RICE, Victor Arthur, et al. Breeding and improvement of farm animals. McGraw Hill. 1957. 537 p.

WHEELER, W. A. and HILL, D. D. Grassland seeds. Nostrand. 1957. 734 p.

PEAIRS, Leonard M. Insect pests of farm, garden and orchard. Wiley. 1956. 661 p.

BROADBENT, L. Investigation of virus diseases of brassica crops. Cambridge. 1957. 94 p.

BRUGGEMAN, L. Tropical plants and their cultivation. Hudson. 1957. 228 p.

TISDALE, Samuel L. Soil fertility and fertilizers. Macmiilan. 1956. 430 p.

MILLER, Erston, V. Chemistry of plants. Reinhold. 1957. 174 p.

STEBBING, E. P. The forests of India : John Lane Bodley Head Ltd.,

Vol. I. 1922. 538 p.
Vol. II. 1923. 633 p.
Vol. III. 1926. 705 p.

STEBBING, E. P. Indian forest insects. Spottiswwode. 1914. 648 p.

HARLAND, Sydney Cross. The genetics of cotton. Cape. 1939. 193 p.

EDGERTON, Claude W. Sugar cane and its diseases. Louisiana State Univ. 1955. 290 p.

HUELSON, Walter A. Sweet corn. Interscience. 1954. 409 p.

BAKER, Frederick S. Principles of siiviculture. McGraw Hill. 1950. 414 p.

KUMLIEN, L. L. The friendly evergreens. Rinehart. 1954. 237 p.

HUME, H. Harold. Citrus fruits. Macmillan. 1957. 444 p.

HEGNER, Robert. Crop production. Macmillan. 1957. 620 p.

RUSSELL, E. John. The world of the soil. Collins. 1957, 237 p.

HUBBARD, C. E. Grasses. Penguin-books. 1954. 428 p.

WALLCE, T. and BUSH, R. G. W. Modern commercial fruit growing. Country Life. 1956. 384 p.

GILLMAN, Joseph C. A manual of Soil Fungi. Iowa State Univ. 1957. 450 p.

LYON, T. Littleton and others. The nature and properties of soils. Macmillan. 1952. 591 p.

THOMPSON, Louis M. Soils aud soil fertility. McGraw Hill. 1957. 451 p.

WENT, Frits, W. The experimental control of plants. Chronica Botanica. 1957. 343 p.

STACKMAN, E.C. Principles of plant pathology. Ronald Press. 1957. 581 p.

STANFORD, Ernest Elwood. Economic plants. Appleton-Century Crofts. 1934. 571 p.

HORSFALL, James G. Principles of fungicidal action. Chronica Botanica. 1956. 279 p.

LAMER, Mirco. The world fertilizer economy. Food Res. Inst. of Stanford Univ. 1957. 715 p.

SYKES, Frank. Living from the land;—a guide to farm management. Geofrey Bles. 1957. 223 p.

WINTERS, Laurence M. Animal breeding. Wiley. 1954. 420 p.

CRAMPTON, E.W. Applied animal nutrition. Freeman & Co., 1956. 458 p.

HUGHES, H.D.. and others. Forages. Iowa State College. 1953. 724 p.

AXLEROD, Herbert and VORDERWINKLER, William. Encyclopedia of tropical fishes. Sterling. 1957. 731.

ROSENFELD, Arthur H. Sugar cane around the world. Univ. of Chicago. 1956. 562 p.

DICK, Willam E. Atomic energy in agriculture. Butterworth. 1957. 150 p.

LEEPER, G.W. Introduction to soil science. Melbourne Univ. Press. 1957 222 p.

DALZIEL, J.M. The useful plants of West Tropical Africa. Crown Agent for Overseas Govts. London. 1955. 612 p.

WILLIAMS, R O. Useful and ornamental plants of Zanzibar. Crown Agent for Colonies, London. 1949. 497 p.

ROYLE, J. Forbes. The fibrous plants of India fitted for cordage, clothing and paper. Smith, Elder & Co. 1855. 403 p.

COMAR, C.L. Atomic energy and agriculture. Association for Advancement of Science. Washington. 1957. 450 p.

SINGLETON, W. Ralph. Nuclear radiation in food and agriculture. Nostrand. 1958. 379 p.

KHALIL, M.S.M. The interrelation between growth and development of wheat as influenced by temperature, light and nitrogen. H. Veeman. 1956. 73 p.

WALLACE, Henry A , and BROWN, Willam L. Corn and its early fathers. Michigan Univ. Press. 1956. 134 p.

BUREAU of F.A.O. in ROME. The World's Coffee. (Series Studies of the Principal Agri. Products on the World's Markets). Inter. Inst. of Agri. Rome. 1947. 526 p.

BROWN, Harry Bates and WARE, Jacob Osborn. Cotton. McGraw Hill. 1958. 566 p.

TRUOG, Emil., *ed.*, and others. Mineral nutrition of plants. Wisconsin Univ. 1953. 469 p.

APPENDIX X

List of Journals received in the Library during 1957-1958

1. Abhandlungen der Deutschen Academie der Wissenschaften zu Berlin, Berlin.
2. Abhandlungen des Hessichen Landesamtes fur Bodenforschung, Weisbaden.
3. Acta Biologica, Academiæ Scientarum Hungaricæ, Budapest.
4. Acta Botanica Fennica, Helsinky.
5. Acta Chimica, Academiæ Scientiarum Hungaricaæ, Budapest.
6. Acta Geologica Polonica, Museum Ziemi, Warsaw.
7. Acta Mathematica, Academiæ Scientiarum Hungaricæ, Budapest.
8. Acta Metallurgica, Toronto, Canada.
9. Acta Physica, Academiæ Scientiarum Hungaricæ.
10. Acta Physiologica Academiæ Scientiarum Hungaricæ.
11. Acta Universitatis (Lunds Universitets Arsskrift) Nova Series.
12. Acta Zoologica Fennica, Helsingforsæ.
13. Agra University Journal of Research.
14. Agrokemia es Talajtan, Budapest.
15. Akademiai Ertesito, Budapest.
16. American Journal of Physics, New York.
17. American Museum Novitates, New York.
18. Annales Bogoriensis, Bogor.
19. Annales Institutio Geologici Publici Hungarici, Budapest.
20. Annals of Biochemistry and Experimental Medicine, Calcutta.
21. Annals of Missouri Botanic Gardens, St. Louis, Missouri.
22. Annals of New York Academy of Sciences, New York.
23. Annals of South African Museum, Cape Town.
24. Annals of Tropical Medicine and Parasitology, Liverpool.
25. Archives des Sciences, Geneve.
26. Archives Internationales d' Historie des Sciences, Paris.
27. Archiwum Mechaniki Stosownej, Warsaw.
28. Army Medical Corps Journal, Poona.
29. Atti della Societa Italiana di Scienze Naturalie de Museo Civico, in Milano, Milan.
30. Australian Journal of Experimental Biology and Medical Science, Adelaide.
31. Australian Journal of Marine and Fresh Water Research, Melbourne.
32. Beaufortia, Amsterdam.
33. Berichte der Physikalisch Medizinischen Gesellschaft zu Wurzburg.
34. Biological Abstracts, Philadelphia
35. Biological Bulletin, Woods Hole.
36. Boletin del Centro de Documentacion Cientifica y Tecnica, Mexico.
37. Boletin do Museu Nacional Rio de Janeiro, Series Anthropologia.
38. Boletin do Museu Nacional Rio de Janeiro, Series Geologica.
39. Boletin do Museu Nacional Rio de Janeiro, Series Zoologica.
40. Botanical Magazine, Tokyo.
41. Bulletin de l' Academic Polonaise des Sciences, Class Troisieme, Warsaw.
42. Bulletin de l' Academic Polonaise des Sciences, Class Quatrieme, Warsaw.
43. Bulletin de l' Institut National Genevois.
44. Bulletin de l' Institute Royale des Sciences Naturalles de Belgique, Bruxelles.
45. Bulletin de la Societe Royale des Sciences de Liege.
46. Bulletin de la Societe Vaudoise des Sciences Naturalles, Lausanne.
47. Bulletin de l' Institut du Desert d' Egypte, Heliopolis.

48. Bulletin (International) de l' Academic Polonaise des Sciences (et des Letters) Cracovie.
49. Bulletin Mensuel de l' Observatoire Metereologique de l' Universite d' Uppsala.
50. Bulletin of the American Museum of Natural History, Woods Hole.
51. Bulletin of the Atomic Scientists, Chicago.
52. Bulletin of the Auckland Institute and Museum, Auckland.
53. Bulletin of the British Non-Ferrous Metals Research Association, London.
54 Bulletin of the Calcutta Mathematical Society, Calcutta.
55. Bulletin of the Calcutta School of Tropical Medicine. Calcutta.
56. Bulletin of the Central Electrochemical Research Institute, Mysore.
57. Bulletin of the Central Food Technological Research Institute, Mysore.
58. Bulletin of the Central Leather Research Institute, Madras.
59. Bulletin of the Central Research Institute, Trivandrum.
Series A. (Physical Sciences)
60. Bulletin of the Central Research Institute, Trivandrum.
Series C. (Biological Sciences)
61. Bulletin of the Chicago Academy of Sciences, Chicago.
62. Bulletin of the Geological Mining and Metallurgical Society of India, Calcutta.
63. Bulletins of the Geological Survey of India, Calcutta.
Series A. (Economic Geology)
64. Bulletins of the Geological Survey of India, Calcutta.
Series B. (Engineering Geology and Ground Water).
65. Bulletin of the Institute of Nuclear Sciences "Boris Kidrich", Belgrade.
66. Bulletin of the Madras Government Museum, Madras.
67. Bulletin of the Mysore Geologists' Association, Bangalore.
68. Bulletin of the National Geographical Society of Banaras.
69. Bulletin of the National Museum of Ceylon.
70. Bulletin of the National Science Museum, Tokyo.
71. Bulletin of the Research Council of Israel, Jerusalem.
72. Bulletin of the Scripps Institution of Oceanography of the University of California, La Jolla, California.
73. Bulletin—Organization for Scientific Research, Indonesia, Djakarta.
74. Bulletin of Central Glass and Ceramics Research Institute, Calcutta.
75. Bulletin—Calcutta Statistical Association, Calcutta.
76. Bulletin—California Agricultural Experiment Station.
77, Circular—California Agricultural Experiment Station.
78. Calcutta Medical Journal, Calcutta.
79. Chalmers Tekniska Hogskolas Handlingar, Gothenburg, Sweden
80. Chemical Reviews, Baltimore.
81. Chicago Academy of Sciences, Bulletins.
82. Chicago Academy of Sciences. Natural History Miscellanea.
83. Chicago Academy of Sciences. Special Publications.
84. Climatological data of U.S. Department of Commerce, Weather Bureau, Washington.
85. Collected Papers from the Faculty of Science, Osaka University, Osaka, Series B.
86. Collected Papers from the Faculty of Science, Osaka University, Osaka, Series C. (Chemistry & Biology) Osaka.
87. Comptes Rendus hebdomedaires des seances de l' Academie des Sciences, Paris.
88. Comptes Rendus Mensuels des seances de la classe des Sciences Mathematique et Naturelles, (Academie Polonaise des Sciences et des Letters), Cracow.
89. Contribution from the Dominion Observatory, Ottawa.

90. Contributions from the U.S. National Herbarium, Washington.
91. Cornell University Agricultural Experiment Station, Ithaca. Bulletin.
92. Cornell University Agricultural Experiment Station, Memoirs.
93. C.S.I.R. News, New Delhi.
94. Current Science, Bangalore
95. Electrotechnisky, Vestnik, Belgrade.
96. Endeavour, London.
97. Fieldiana, Geology, Chicago.
98. Fieldiana, Zoology, Chicago.
99. F.R.I. News, Jealgora.
100. French Economic & Technical Bulletin, New Delhi.
101. Fundamenta Mathematicæ, Warsaw.
102. Ganita, Lucknow.
103. Geophysical Memoirs, Meteorological Office, London.
104. Glasnik Mathematico Fizicki Astronomski, Zagreb.
105. Grosswetterlagen Mittel Europas, Bad Kissengen.
106. Half Yearly Journal of the Mysore University, Section B.
107. Harvard College Observatory, Cambridge, Mass. Annals of :
108. Harvard College Observatory, Cambridge, Bulletins.
109. Harvard College Observatory, Cambridge, Reprints.
110. Harvard College Observatory, Cambridge, Reprints, Series II.
111. Harvard College Observatory, Cambridge, Quarterly Reports.
112. Hilgardia, Berkeley.
113. Indian Central Cotton Committee, Technolog cal Laboratory. Technological Bulletin Series A. Bombay.
114. Indian Central Jute Committee, Calcutta Agricultural Research Memoir.
115. Indian Central Cotton Growing Review, Bombay.
116. Indian Farming, Delhi.
117. Indian Forest Bulletin, Dehra Dun.
118. Indian Forest Leaflets, Dehra Dun.
119. Indian Forest Records, Dehra Dun.
120. Indian Journal of Agricultural Science, New Delhi.
121. Indian Journal of Dairy Science, New Delhi.
122. Indian Journal of Entomology, Bangalore.
123. Indian Journal of Genetics and Plant Breeding, New Delhi.
124. Indian Journal of Helminthology, Lucknow.
125. Indian Journal of Horticulture, New Delhi.
126. Indian Journal of Malariology, Calcutta.
127. Indian Journal of Medical Research, Calcutta.
128. Indian Journal of Meteorology and Geophysics, Delhi.
129. Indian Journal of Pharmacy, Bombay.
130. Indian Journal of Physics, Calcutta.
131. Indian Journal of Physiology and Allied Sciences, Calcutta.
132. Indian Journal of Power and River Valley Development, Calcutta.
133. Indian Journal of Psychology, Calcutta.
134. Indian Journal of Veterinary Science and Animal Husbandry; Delhi.
135. Indian Medical Gazette, Calcutta.
136. Indian Medical Research Memoirs, Delhi.
137. Indian Minerals, Calcutta.
138. Indian Mining Journal, Calcutta.
139. Indian Phytopathology, Delhi.
140. Indian Standard, Delhi.
141. Insdoc List, New Delhi.
142. I.S.I. Bulletin, Delhi,

143. Indo-Pacific Fisheries Council. Bangkok. Proceedings of :
144. Industrial & News Edition of the Journal of the Indian Chemical Society, Calcutta.
145. International Medical Abstracts and Reviews, Calcutta.
146. International Scientific Radio Union ; Brussels ;—Bulletins of —
147. Japanese Journal of Zoology Tokyo.
148. Journal and Proceedings of the Institution of Chemists (India), Calcutta.
149. Journal and Proceedings of the Royal Society of New South Wales, Sydney.
150. Journal of Chemical Physics, Lancaster.
151. Journal of Research of the National Bureau of Standards, Washington.
152. Journal of Science of the Hiroshima University, Series A. (Mathematics, Physics, Chemistry).
153. Journal of Scientific & Industrial Research, New Delhi. Section A. General.
154 Journal of Scientific & Industrial Research, New Delhi. B and C Sections.
155. Journal of Scientific Research of the Banaras Hindu University, Banaras.
156. Journal of Scientific Research in Indonesia, Djakarta.
157. Journal of Soil and Water Conservation in India, Hazari Bagh.
158. Journal of the American Medical Association, Chicago.
159. Journal of the Anthropological Society of Bombay, Bombay.
160. Journal of the Elisha Mitchell Scientific Society, N. Carolina University Press.
161. Journal of the Faculty of Science. Hokkaido University, Sapporo, Japan, Section Zoology.
162. Journal of the Franklin Institute, Philadelphia.
163. Journal of the Indian Botanical Society, Bangalore.
164. Journal of the Indian Chemical Society, Calcutta.
165. Journal of the Indian Institute of Science, Bangalore.
166. Journal of the Indian Mathematical Society, Madras.
167. Journal of the Indian Society of Agricultural Statistics, New Delhi.
168. Journal of the Indian Society of Soil Science, New Delhi.
169. Journal of the Institute of Fuel, London.
170. Journal of the Institute of Polytechnics, Osaka University, Osaka, Series C. Chemistry.
171. Journal of the Institute of Polytechnics, Osaka University, Series B Engineering.
172. Journal of the Institute of Polytechnics, Osaka University, Series A. Mathematics.
173. Journal of the Institution of Engineers, Calcutta.
174. Journal of the Madras Institute of Technology, Madras.
175. Journal of the Optical Society of America, Pennsylvania.
176. Journal of the Science Club, Calcutta.
177. Journal of the Scientific Research Institute, Tokyo.
178. Journal of the Washington Academy of Sciences, Baltimore.
179. Journal of the Textile Institute, Manchester. Proceedings and Abstracts of :-
180. Journal of the Textile Institute, Manchester. Transactions.
181. Journal of the Zoological Society of India, Calcutta.
182. Kheti, Delhi.
183. Kitasato Archives of Experimental Medicine, Tokyo.
184. Kong Danske Videnskabernes Selskab, Copenhagen. Matematik-fysiske Meddeleser.
185. Kong Danske Videnskabernes Selskab, Copenhagen. Biologiske Meddeleser.
186. Kong. Danske Videnskabernes Selskab. Copenhagen. Biological Skrifter.
187. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam.
,, Proceedings Series A. Mathematical Series.

188. Koninklijke Proceedings Series B. Physical Series.
189. ,, Proceedings Series C. Biological and Medical Series.
190. Kung Svenska Vetenskapsakadamiens, Stockholm. Handlingar. Fjarde. Series.
191. La Cellule, Louvain.
192. List of Scientific Papers published in the Middle East, Cairo.
193. Mathematical Journal of Okayama University, Okayama.
194 Mathematica Scandinavica, Copenhagen.
195. Mathematical Reviews, Lancaster.
196. Mathematics Magazine, California.
197. Mathematics Student, Madras.
198. Mathematics Teacher, Washington.
199. Matematisk Tidsskrift, Copenhagen.
200. Memoirs of the Connecticut Academy of Arts and Sciences.
201. Memoirs of the Entomological Society of India ; New Delhi.
202. Memoirs and Proceedings of the Manchester Literary and Philosophical, Society, Manchester.
203. Memoirs of the College of Agriculture, Kyoto University. Kyoto, Japan, Chemical Series.
204. Memoirs of the Faculty of Engineering, Kyushu University, Fukuoka, Japan.
205. Memoirs of the Geological Survey of India, Calcutta.
206. Memoirs of the Indian Meteorological Department, Delhi.
207. Memoirs of the Queensland Museum.
208. Mitteilungen des Naturwissenschaftlichen Vereins fur Steiermark, Graz.
209. Nagoya Mathematical Journal, Japan.
210. Nature, London.
211. News Report, National Academy of Sciences and Natural Research Council, Washington.
212. New Zealand Journal of Science and Technology, Wellington. Section A. (Agricultural Research).
213. New Zealand Journal of Science and Technology, Wellington. Section B. (General Research).
214. Notes and Records of the Royal Society of London.
215. Notes of the Royal Botanic Gardens, Edinburgh.
216. Notizblatt des Hossischen Landesamtes fur Bodenforschung zu Wiesbaden.
217. Notulæ des Hessischen of the Academy of Natural Sciences of Philadelphia.
218. Nuclear Science Abstracts, Oak Ridge.
219. Nucleonics, New York.
220. Occassional Papers of the California Academy of Sciences, San Francisco.
221. Osaka Mathematical Journal, Osaka.
222. Pacific Journal of Mathematics, Los Angeles.
223. Pacific Science, Hawaii.
224. Pakistan Journal of Science, Lahore.
225. Pakistan Journal of Scientific Research, Section B and C.
226. Palæobotanist, Lucknow.
227. Papers and Proceedings of the Royal Society of Tasmania.
228. Phillippines Journal of Science, Manila.
229. Philosophical Transactions of the Royal Society of London. Series A.
230. Philosophical Transactions of the Royai Society of London. Series B.
231 Physical Review, New York.
232. Physics Abstracts, London.
233. Phytomorphology, Delhi.
234. Proceedings of the Academy of Natural Sciences of Philadelphia.
235 Proceedings of the American Academy of Arts and Sciences, Boston
236. Proceedings of the California Academy of Sciences, San Francisco.

237. Proceedings of the Cambridge Philosophical Society, London.
238. Proceedings of the Indian Academy of Sciences, Bangalore, Section A.
239. Proceedings of the Indian Academy of Sciences, Bangalore, Section B.
240. Proceedings of the National Academy of Sciences, India, Allahabad, Section A.
241. Proceedings of the National Academy of Sciences, India, Allahabad, Section B.
242. Proceedings of the National Academy of Sciences, of the U.S.A., Washington.
243. Proceedings of the Royal Institution of Great Britain.
244. Proceedings of the Royal Irish Academy, Dublin, Section A.
245. Proceedings of the Royal Irish Academy, Dublin, Section B.
246. Proceedings of the Royal Society, London, Series A.
247. Proceedings of the Royal Society, London, Series B.
248. Proceedings of the Royal Society, of Edinburgh, Section A, (Mathematical and Physical Sciences).
249. Proceedings of the Royal Society of Edinburgh, Section B, (Biology).
250. Proceedings of the Royal Society of Victoria, Melbourne.
251. Proceedings of the U.S. National Museum (Smithsonian Institution), Washington.
252. Proceedings of the Zoological Society, Calcutta.
253. Progress of Theoretical Physics, Kyoto, Japan.
254. Psyche, a journal of entomology, Cambridge, Mass.
255. Public Health Reports, Washington,
256. Publicacoes do Instituto de Botanica, Dr. Goncalo Sampio da Faculdad de Ciencias da Universidade de Porto, Porto. Series II.
257. Publications de la Faculty des Sciences de 'I' Universite Masaryk, Praha.
258. Publications de l' Institute du Desert, Heliopolis.
259. Publications de l' Institute Mathematique, Belgrade.
260. Publications of the Astronomical Society of Japan, Tokyo.
261. Publications of the Dominion Observatory, Ottawa.
262. Publications della Stazione Zoologica, Napoli.
263. Purdue University Agricultural Experiment Station, Lafayette, Circular.
264. Purdue University Agricultural Experiment Station, Lafayette, (Station Bulletin).
265. Quarterly Journal of the Geological, Mining & Metallurgical Society of India Calcutta.
266. Quarterly of Applied Mathematics, Providence.
267. Quarterly Progress Report, Research Laboratory of Electronics, M.I.T., Cambridge, Mass.
268. Quarterly Progress Report, Solid State and Molecular Theory Group, M.I.T., Cambridge, Mass.
269. Records of the Australian Museum, Sydney.
270. Records of the Botanical Survey of India, Calcutta.
271. Records of the Indian Museum, Calcutta.
272. Records of the Geological Survey of India, Calcutta.
273. Reinwardtia, Bogor.
274. Report of the Department of Mines, Western Australia.
275. Research, London.
276. Research Bulletin of the East Punjab University, Hoshiarpur.
277. Revista Cubana de Laboratorio Clinico, Cubana.
278. Sarawak Museum Journal, Kuching, Sarawak.
279. Schriften des Naturwissenschaftlichen vereins fur Schleswig-Holstein, Kiel.
280. Science, Lancaster.
281. Science and Culture, Calcutta.
282. Science Museum Library, London. Monthly list of accessions to the Library.
283. Science Museum Library, London. Bibliographical Series.

284. Science Progress, London.
285. Scientific Papers of the College of General Education, University of Tokyo.
286. Scripta Mathematica, New York.
287. Seismological Bulletin. Meteorological Department, Government of India, New Delhi.
288. Sitzungsberichte, Abt. I. Biologie, Mineralogi etc Wien.
289. Sitzungsberichte, der deutschen Academic der Wissenschaften zu Berlin. Class—Mathematics.
290. Sitzungsberichte, der deutschen Academic der Wissenschaften zu Berlin. Class II.
291. Societas Scientiarum Fennica, Helsinki. Commentationes Biologicæ.
292. Societas Scientiarum Fennica, Helsinki. Commentationes Physico-Mathematicæ.
293. Statistical Newsletter.
294. Sudan Notes and Records, Khartoum.
295. Summaries of Reports of the Eiectrotechnical Laboratory, Tokyo.
296. Suomalaisen Tiedakatemian Toimituksia, Helsinki. Series A. Biologica.
297. Suomalaisen Tiedakatemian Toimituksia, Helsinki. Series B. Math.—Physics.
298. Technical News Bulletin (NBS.), Washington.
299. Technical Report, Solid, State and Molecular Theory Group, M. I. T. Cambridge, Mass.
300. Technical Report, Research Laboratory of Electronics, Cambridge.
301. Technological Reports of the Osaka University, Japan.
302. Tensor, Sapporo, Japan.
303. Trabalhos do Instituto Botanica, Dr. Goncalo Sampaio, Porto.
304. Transactions and Proceedings of the Botanical Society of Edinburgh.
305. Transactions and Proceedings of the Royal Society of New Zealand.
306. Transactions of the American Mathematical Society, Providence.
307. Transactions of the Connecticut Academy of Arts and Sciences, New Haven.
308. Transactions of the Indian Institute of Chemical Engineers, Calcutta.
309. Transactions of the Mining, Geological and Metallurgical Institute of India, Calcutta.
310. Transactions of the New York Academy of Sciences, New York.
311. Transactions of the Royal Canadian Institute, Toronto.
312. Transactions of the Royal Society of Canada, Section III, Chemistry, Mathematics and Physical Sciences.
313. Transactions of the Royal Society of Canada, Section V, Biological Sciences.
314. Transactions of the Royal Society of New Zealand, Wellington.
315. Transactions of the Royal Society of South Africa.
316. Transactions of the San Diego Society of Natural History, San Diego.
317. Transactions of the Wisconsin Academy of Sciences, Madison.
318. Treubia, Bogor.
319. Tropical Agriculture, Trinidad.
320. UNESCO Bulletin for Libraries. Paris.
321. Union Geodesique et Geophysique. International Newsletter.
322. Universities Quarterly, London.
323. Utah Academy of Sciences, Arts and Letters, Salt Lake City. Proceedings.
324. U. S. Department of Commerce, Weather Bureau. Technical Paper.
325. United States National Museum, Washington. Bulletin.
326. University of California, Agricultural Experiment Station. Bulletins.
327. University of California, Agricultural Experiment Station, Circulars.
328. University of California, Berkley. Publications in Botany.
329. Verhandlungen der Geologischen Bundesanstalt, Wien.
330. Verhandlungen der Naturforschenden Geselleschaft in Basel.

331. Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien.
332. Vijnan Karmee, Delhi.
333. Vigyan Pragati (Hindi), Delhi.
334. Witterungsberichte, Bad Kissingan.
335. W.M.O. (World Meteorological (Organization), Geneva. Bulletin.
336. Zeitschrift fur Naturforschung, Tubingen.

Russian Journals : Titles translated into English

337 Astronomicheski zhurnal (Astronomicai Journal).
338. Biokhemia (Biochemistry).
339. Doklady Akademii Nauk, SSSR.
340. Izvestiia Akademii Naue, SSSR : Seriia matematicheskaia. (Bulletin of the Academy of Sciences of the USSR, Mathematical Series).
341. Izvestiia Akademii Nauk SSSR: Seria biologicheskaia (Bulletin of the Academy of Sciences of the USSR, Biological Series).
342. Matematicheskii sbornik (Mathematical Symposium).
343. Mikrobiologia (Microbiology).
344. Priroda (Nature).
345. Referativnyi zhurnal (Reference Journal): : Mathematical Series.
346. ,, ,, ,, ,, : Physical Series.
347. ,, ,, ,, ,, : Chemical Series.
348. ,, ,, ,, ,, : Astronomical Series.
349. ,, ,, ,, ,, : Mechanical Series.
350. Uspekhi sovremennoi biologii (Achievements of Contemporary Biology).
351. Vestnik Akademii Nauk SSSR.
352. Zoologicheskii zhurnal (Zoological Journal).
353. Zhurnal obschei biologii (Journal of General Biology).

APPENDIX XI

Office Staff 1957-58

Offg. Assistant Secretary	...	H. Sengupta
Assistant Editor	...	P. O. Matthai (up to 31st August 1957)
Accountant	...	A. R. Bhutani
Stenographer	...	M. R. Sharma
Office Assistant	...	M. S. Nigam S. N. Banerjee
Assistant Librarian	...	Ram Rakha
U.D. Clerk	...	A. N. Sengupta
Clerk typists	...	J. Singh K. N. Chibber
Record Keeper	...	Sitaram Kataria

APPENDIX

NATIONAL INSTITUTE

Balance Sheet as at

LIABILITIES

	Rs. nP.	Rs. nP.	Rs. nP.
Sundry Donations and Fellows Funding Account :			
Donations ...	...	36,400.03	
Fellows Funding and Compounding Fees Balance as on 31-3-57 ...	24,190.00		
Receipts during the year ...	1,050.00	25,240.00	61,640.03
Chandra Kala Hora Memorial Medal Endowment Fund :			
Balance as on 31-3-57 ...	...	3,802.75	
Interest during the year ...	...	98.00	3,900.75
General Fund :			
Balance as on 31-3-57 ...	...	1,35,482.30	
Less: Transfer to Income and Expenditure Account ...	...	6,171.15	
		1,29,311.15	
Add : Transfer from Symposium Fund	37.89		
Transfer from Income and Expenditure Account ...	53,559.27	53,597.16	1,82,908.31
Building Fund :		...	2,90,000.00
I.C.I. Research Fellowshipes Fund :			
Balance as on 31-3-57 ...	...	3,837.11	
Add : Transferred from Income and Expenditure Account ...	...	1,732.05	5,569.16
Temporary Reserve Fund :			
Balance as on 31-3-57 ...	...	95,805.11	
Less : Transferred to Income and Expenditure Account ...	...	45,217.84	50,587.27
Popularisation of Science Fund :			
Balance as on 31-3-57 ...	...	...	3,792.97
Grant for National Register of Scientific and Technical Personal :			
Balance as on 31-3-57 ...	...	...	462.62
	Carried over	..	5,98,861.11

XII

OF SCIENCES OF INDIA

31st *March* 1958

ASSETS

			Rs. nP.	Rs. nP.	Rs. nP.
Building and Equipments :					
Balance as on 31-3-57	...	...		...	2,90,811.77
Furniture :					
Balance as on 31-3-57	...	...		27,590.56	
Additions during the year	...	...		5,411.12	
Additions Library furniture	...	...		4,781.24	37,782.92
Library Books and Journals :					
Balance as on 31-3-57	...	...		1,12,972.64	
Additions during the year	...	..		44,877.32	1,57,849.96
Advance to Calcutta Office :	...	...		...	3,515.83
Symposium Solar Energy and Wind Power (Dr,)	...	...		...	689.76
Sundry Debtor (P.B. Mathur)	...	...		...	175.00
Advances :					
To Staff and others	...	...		3,341.56	
,, Research Fellows	...	...		800.00	
,, Supervisors	...	...		700.00	
,, Progress of Science Reviews	...	...		500.00	
,, Editor's Office	...	...		150.00	5,491.56
Subscriptions Outstanding :					
Year 1958	...	...		1,708.14	
,, 1957	...	...		308.50	
,, 1956	...	...		276.00	
Prior to 1956	...	...		156.00	2,448.64
Meter Security :	...	...		...	25.00
Suspense at Debit :	...	...		...	50.00
Investments at cost :	...	...		...	47,189.24
4% Loan 1960/70 F. Value	...	17,600.00			
3% Conversion Loan Face Value	...	29,000.00			
(Includes Securities of the face value of Rs. 3 000/- for Chandra Kala Hora Memorial Medal Fund and securities of the face value of Rs. 44,189.24 nP. for Funding Account and donations)					
		Carried over	...		5,46,029.68

APPENDIX

NATIONAL INSTITUTE

Balance Sheet as at

LIABILITIES	Rs. nP.	Rs. nP.	Rs. nP.
Brought forward			5,98,861.11
Indian Seience Abstracts Fund :			
Balance as on 31-3-57			17,160.11
Symposium Fund :			
Balance as on 31-3-57		37.89	
Less : Transferred to General Fund		37.89	Nil
I.C.I. Stipend Amount Cr. Balance			400.00
Maintenance of Building Reserve :			
Balance as on 31-3-57 ...			2,000.00
Maintenance of Gardens and Lawns Reserve :			
Balance as on 31-3-57 ...			800.00
Employees' Provident Fund :			
Balance as on 31-3-57 ...		30,644.19	
Add : Members contribution ...	2,363.83		
Add : Institute's contribution ...	2,363.83		
Add : Interest ...	393.36	5,121.02	
		35,765.21	
Less : Payment during the year		5,492.50	30,272.71
Accountant Security :			
Balance as on 31-3-57		2,070.00	
Add : Interest during the year		70.00	
		2,140.00	
Less : Payment of interest		70.00	2,070.00
Suspense at Credit :			
Balance as on 31-3-57			21.94
Government Grant Symposium High Altitude Research :			
Balance as on 31-3-57		6,318.19	
Less : Payment for Publication of Bulletin		6,318.19	Nil
	Carried over ...		6,51,585.87

XII—(*Contd.*)

OF SCIENCES OF INDIA

31*st March*, 1958—(*Contd.*)

ASSETS

		Rs. nP.	Rs. nP.	Rs. nP.
Brought forward				5,46,029 68
Cash and Bank Balances :				
Fixed Deposits with State Bank of India	...	...	48,175 00	
P. F. Account	...	25,914.00		
Funding Account	...	10,612.00		
Reserve Fund	...	11,649.00		
		48,175.00		
3½% 10 years Treasury Bonds	...	...	42,000.00	
Accountant Security	...	2,000.00		
Reserve Fund	...	40,000.00		
State Bank of India Saving Bank Account	...		7,739·54	
Chandra Kala Memorial Medal Fund	...	900.75		
Funding Account	...	6,838.79		
State Bank of India :				
Employees Provident Fund Saving Account	...		4,358.71	
Petty Cash	...		38.71	
Postage Franking Machine	...		241.55	
Postage Stamp with office	...		19.73	
Postage with Library	...		8.12	
State Bank of India Current Account	...		31,945·25	1,34,526.61
	Carried over	...		6,80,556.29

APPENDIX

NATIONAL INSTITUTE

Balance Sheet as at

LIABILITIES	Rs. nP.	Rs. nP.	Rs. nP.
Brought forward			6,51,585.87
Contribution by Muslim University Aligarh For Symposium on Altitude Research :			
Balance as on 31-3-57		750.00	
Less : Payments for Publication of Bulletin		750.00	Nil
Sundry Creditors :			
Stipends payable (Research Fellows)... ...		2,750.81	
Sundry Creditors		1,068.47	
Security for Books		10.00	
Subscription Received in advance		52.06	
Income Tax Payable		112.83	3,994.17
Retention Money Research Fellows :		...	19,610.00
Dr. S. S. Bhatnagar Memorial Fund :		...	5,366.25
	Total Rs.		6,80,556.29

1-B, Old Post Office Street,
Calcutta, the 21st day of July 1958.

XII—(*Contd.*)

OF SCIENGES OF INDIA

31st *March*, 1958—(*Contd.*)

ASSETS

	Rs. nP.	Rs. nP.	Rs. nP.
Brought forward			6,80,556.29

Total Rs. 6,80,556.29

N.B.—No depreciation has been provided on assets.

AUDITORS' REPORT

We report that we have examined the above Balance Sheet of the National Institute of Sciences of India as at 31st March 1958, and also the relevant Income and Expenditure Account and Receipts and Payments Account of the Institute for the year ended on that date. In our opinion, the Balance Sheet shows a true and correct view of the state of affairs of the Institute according to the best of our information and explanations given to us and as shown by the Books of the Institute.

Sd/. LODHA & CO.
Chartered Accountants.

APPENDIX

NATIONAL INSTITUTE

Income and Expenditure Account

EXPENDITURE

			Rs. nP.	Rs. nP.
To	*Expenditure out of Government grant* :			
	Staff Salaries including Allowances	...	56,075.21	
	Provident Fund Contribution	...	2,363.83	58,439.04
,,	*NIS Research Fellowships*:			
	Stipends Senior	...	35,278.57	
	Stipends Junior	...	82,019.29	
	Contingencies Seniors	...	5,528.11	
	Contingencies Juniors	...	5,241.32	
	Advertisement Research Fellows	...	1,975.13	1,30,042.42
,,	*Travelling Expenses for Meetings* :	...	...	48,674.22
,,	*Publications Institnte* :			
	Proceedings and Transactions	...	43,805.13	
	Progress of Science	...	5,437.35	
	Symposia Bulletin	...	2,892.12	52,134.60
,,	*Publication Grant to other Societies* :	...	...	40,050,00
,,	*Library Recurring Expenses* :	...	...	350.74
	(Rs. 44,877.32 spent on books and journals and Rs. 4,781.24 spent on library furniture are shown as assets in the Balance Sheet).			
,,	*Contingency Expenses* :			
	Rent of land (Upto 14th July 1958)	...	5,625.00	
	House Tax	...	5,625.40	
	Printing and Stationery	...	2,620.81	
	Postage, Telegram and Telephone	...	4,735.19	
	Maintenance of buildings	...	515.15	
	Maintanance of lawns and gardens	...	2,006.82	21,128.37
To	*Expenses out of General Fund* :			
,,	Electricity and Water charges	...	611.19	
,,	Conveyance	...	728.24	
,,	Bank Charges	...	212.32	
,,	Subscriptions written off	...	24.00	
,,	Miscellaneous expenses	...	2,228.89	3,804.64
		Carried over	...	3,54,624.03

XIII

OF SCIENCES OF INDIA

for the year ended 31st March, 1957

INCOME

			Rs. nP.	Rs. nP.
By	Grant Government of India (1957-58)	...	3,50,000.00	
,,	Sale of Publications	...	5,260.11	3,55,260.11
,,	Amount transferred from General Fund	...	...	6,171.15
,,	Amount trausferred from Temporary Reserve Fund as per Council Resolution of 26th June 1958	...	...	45,217.84
,,	Grant Universities	...	...	500.00
,,	Membership Subscriptions 1958			
	Received	...	6,683.86	
	Receivable	...	1,708.14	
				8,392.00
,,	Interest on Investments	...	...	3,270.42
,,	Miscellaneous Income	...	...	212.53
	Carried over	...		4,19,024.05

APPENDIX

NATIONAL INSTITUTE

Income and Expenditure Account

EXPENDITURE

			Rs. nP.	Rs. nP.
	Brought forward	...		3,54,624.03
To	Subscriptions I.S.I.	...	250.00	
,,	Meeting Expenses (Council & Zonal)	...	765.82	
,,	Rent, Rates and Taxes	...	967.00	
,,	Insurance on building	...	252.62	
,,	Allowance for Secretarial Assistance	...	371.50	
,,	Telephone installation fee on three new connections to office-bearers.	...	6,000.00	
,,	Telephone monthly charges of office bearers..	...	504.79	
,,	Symposium expenses	...	443.02	
,,	Audit Fee	...	250.00	
,,	Expenditure on visit of foreign scientists	...	1,000.00	
,,	Subscriptions to co-operating academies on behalf of Fellows	...	36.00	10,840.75
,,	*Excess of Income over Expenditure transferred to General Fund	...		53,559.27*
		Total Rs.		4,19,024.05

Imperial Chemical Industries (India)

To	I.C I. Research Fellowship stipend	...	...	26,309.64
,,	I.C.I. Research Fellowship contingencies	...	...	1,607.28
,,	Balance in stipend amount carried over to 1958-59 grant	...	...	400.00
,,	Excess of Income over Expenditure transferred to I.C.I. Research Fellowships Fund	...	...	1,732.05
		Total Rs.		30,048.97

**Note* :—Represents Following capital additions during the year as shown in the Balance Sheet

Library Books and Journals	...	44,877.32
,, Furniture	...	4,781.24
Office Furniture	...	5,411.12
		55,069.68
Less : Excess of Expenditure over Income as per enclosed statement of Actual Receipts and Payments	...	1,510.41
		53,559.27

1-B, Old Post Office Street,
Calcutta, the 21st day of July 1958

XIII—(*Contd.*)

OF SCIENCES OF INDIA

for the year ended 31st March, 1958—(Contd.)

INCOME

	Rs. nP.	Rs. nP.
Brought forward		4,19,024.05
Total Rs.		4,19,024.05

Ltd. Research Fellowships

By	I.C.I. Research Fellowship Grant Scheme No. II	... ...	26,709.64
,,	I.C.I. Research Fellowship contingencies grant	... ...	3,339·33
	Total Rs,		30,048.97

This is the Income and Expenditure Account referred to in our report of even date.

Sd/. LODHA & CO.
Chartered Accountants.

APPENDIX

NATIONAL INSTITUTE

Receipts and Payments Account

1. Government

RECEIPTS

		Rs. nP.	Rs. nP.
Government Grant-in-aid during 1957-58	...		3,50,000.00
Sale of Publications	...		5,260.11
			3,55,260.11
To Excess of payments over Receipts	...		45,217.84
	Total Rs.		4,00,477.95

2. General

To Transfer from General Fund	...		6,171.15
,, Grant Universities	...		500.00
,, Fellowships Subscriptions 1958	...	6,683.86	
,, -do- Receivable	...	1,708.14	
			8,392.00
	Carried over ...		15,063.15

XIV

OF SCIENCES OF INDIA

for the year ending 31st March, 1958

Grant-in-Aid

PAYMENTS

		Rs. nP.	Rs. nP.
Staff Salaries including Allowances and Provident Fund	...	...	58,439.04
Travelling	...	...	48,674.22
N.I.S. Research Fellowships			
Stipends Senior Fellows	...	35,278.57	
Stipends Junior Fellows	...	82,019.29	
Contingencies Sensior	...	5,528.11	
Contingencies Junior	...	5,241.32	
Advertisement Research Fellows	...	1,975.13	1,30,042.42
Library			
Books and Journals	...	44,877.32	
Steel and Wooden racks	...	4,781.24	
Expenses	...	350.74	50,009.30
Publications			
(a) Proceedins and Transactions	...	43,805.13	
Symposia Bulletin	...	2,892.12	
Progress of Science	...	5,437.35	52,134.60
(b) Publication grant Societies	...	...	40,050.00
Contingencies			
Rent of Land	...	...	5,625.00
House Tax	...	...	5,625.40
Printing and Stationery	...	...	2,620.81
Postage, Telegram and Telephone	...	...	4,735.19
Maintenance of Building	...	...	515.15
Maintenance of Lawns and grandens	...	...	2,006.82
		Total Rs.	4,00,477.95

Fund

By Electricity and Water charges	...	...	611.19
,, Audit fee	...	...	250.00
,, Payment to co-operating academies	...	...	36.00
,, Rent, Rate and taxes	...	...	967.00
,, Conveyance	...	...	728.24
,, Bank Charges	...	...	212.32
,, Subscription to other institutions (I.S.I.)	...	...	250.00
	Carried over	...	3,054.75

APPENDIX

NATIONAL INSTITUTE

Receipts and Payments Account

RECEIPTS

		Rs. nP.	Rs. nP.
	Brought forward ...		15,063.15
To	Interest on investments ...		3,270.42
,,	Miscellaneous income ...		212.53
			18,546.10
,,	Excess of payments over Receipts ...		1,510.41
	Total Rs.		20,056.51

3. ICI Research

To	ICI Research Fellowships grant ...		26,709.64
,,	-do- Contingency grant ...		3,339.33
	Total Rs.		30,048.97

1-B, Old Post Office Street,
Calcutta, the 21st day of July, 1958

XIV—(*Contd.*)

OF SCIENCES OF INDIA

for the year ending 31st March, 1958—(Contd.)

PAYMENTS

		Rs. nP.	Rs. nP.
	Brought forward ...		3,054.75
By	Insurance on Buildings ...	...	252.62
,,	Meeting expenses ...	...	557.18
,,	Miscellaneous expenses including peons' uniforms etc. ...	...	2,228.89
,,	Allowances for Secretarial assistance ...	...	371.50
,,	Symposium expenses ...	...	443.02
,,	Expenses Zonal Meetings ...	...	208.64
,,	Telephone connections office-bearers ...	...	6,000.00
,,	Telephone expenses office-bearers ...	...	504.79
,,	Subscriptions written off ...	...	24.00
,,	Expenditure on visit of foreig scientists ...	...	1,000.00
,,	Office Furniture ...	...	5,411.12
		Total Rs.	20,056.51

Fellowships

By	I.C.I. Research Fellowships	...	...	26,309.64
,,	I.C.I. Research Contingencies	...	...	1,607.28
,,	Balance in stipend Amount carried over to 1958-59 Grant	...	...	400.00
,,	Excess of receipts over payments	...	...	1,732.05
			Total Rs.	30,048.97

Signed for identification.

Sd/. LODHA & CO.
Chartered Accountants.

APPENDIX

NATIONAL INSTITUTE

Actual Expenditure

1. Government

RECEIPTS

		Revised Estimates 1957-58	Actuals 1957-58	Estimates 1958-59
		Rs.	Rs.	Rs.
Government grant-in-aid	...	4,66,800	3,50,000	5,58,350
Sale Publications	...	...	5,260	...
Total Rs.		4,66,800	3,55,260	5,58,350

2. I.C.L. Research

Stipends	...	26,310	26,709	20,200
Contingencies	...	3,289	3,340	2,525
Total Rs.		29,599	30,049	22,725

XV

OF SCIENCES OF INDIA

for 1957-58 *and Estimates for* 1958-59

Grant-in-Aid

EXPENDITURE

			Revised Estimates 1957-58	Actuals 1957-58	Estimates 1958-59
			Rs.	Rs.	Rs.
G. 1.	*Staff salaries including Allowances and P. F.*	...	57,623	58,439	76,000
G. 2.	*Travelling*	...	46,650	48,674	55,000
G. 3.	*N.I.S. Research Fellowship*	...	36,340	1,30,042	1,80,000
G. 4.	*Library*	...	80,000	50,009	80.000
G. 5.	*Publications*				
	(1) Institute	...	84,216	52,135	1,02,050
	(2) Other Societies	...	40,050	40,050	40,000
G. 6.	*Contingencies*				
	(1) Ground Rent	...	5,625	5,625	5,625
	(2) House tax	...	5,625	5,625	5,625
	(3) Maintenance building	...	1,216	515	3,600
	(4) Lawns and garden	...	2,600	2,007	2,000
	(5) Printing and stationery	...	2,480	2,621	3,000
	(6) Postage and telegrams	...	4,375	4,736	4,750
			4,66,800	4,00,478	5,58,350
			...	—45,218	...
	Total	Rs.	4,66,800	3,55,260	5,58,350

Fellowships

Stipends	...	26,310	26,709	20,200
Contingencies	...	3,289	1,608	2,525
Transfer I.C.I. Research Fellowships Fund	...	...	1,732	...
Total	Rs.	29,599	30,049	22,725

APPENDIX

NATIONAL INSTITUTE

Annual Expenditure

3. General

RECEIPTS

		Revised Estimates 1957-58	Actuals 1957-58	Estimates 1958-59
		Rs.	Rs.	Rs.
1. *Subscriptions*				
Annual	...	8,550	8,392	9,000
Compounding fee	...	500	570	500
Admission fees	...	480	480	480
2. *Grants*				
Calcutta University	...	500	500	500
Osmania University	...	300	...	600
Bombay University	...	500	...	...
Bihar University	...	500	...	...
Interest Chandrakala Hora Memorial Medal Fund	...	106	98	100
3. *Sale of Publications*	...	3,900	5,260	5,000
4. *Miscellaneous receipts*				
(a) Interest on investments and rent recoveries	...	3,695	3,483	3,750
(b) Sale of apparatus of Research fellows	...	100	...	200
5. *Transfer from funds*				
(a) Reviews Progress of Science	...	500	...	2,640
(b) General Fund for furniture etc.		6,000	6,171	...
(c) Contribution Muslim University		750	750	...
(d) I.C.I. Research Fellowship Fund		2,000	...	2,000
(e) Dr. S. S. Bhatnagar Memorial Fund	...	5,366	...	5,366
Total Rs.		33,747	25,704	30,136

XV—(*Contd.*)

OF SCIENCES OF INDIA

for 1957-58 *and Estimates for* 1958-59

Fund

EXPENDITURE

		Revised Estimates 1957-58	Actuals 1957-58	Estimates 1958-59
		Rs.	Rs.	Rs.
Transfer to Funds				
Funding Account	...	1,086	1,148	1,080
Rent Rate and Taxes	...	750	967	950
Payment Other Institutes				
I. S. I.	...	250	250	250
Co-operating Academies	...	120	36	120
Miscellaneous				
Electricity and water charges	...	800	611	700
Advertisement	...	200	...	200
Audit fee	...	250	250	350
Conveyance	...	600	728	900
Fire Insurance	...	253	253	500
Bank charges	...	200	212	250
Allowances secretarial assistance	...	477	372	1,260
Sundries Peons' uniforms, meeting expenses etc.	...	2,500	2 786	2,800
Subscriptions written off	...	144	24	144
Symposium expenses	...	1,500	443 750	1,500
Telephone installation office bearers		6,000	6,000	...
Telephone expenses office bearers	...	560	505	750
Zonal meetings	...	500	209	500
Progress of Science Reviews	...	500	...	2,640
Special grants	...	2,000	...	2,000
Dr. S. S. Bhatnagar Memorial Fund		5,366	...	5,366
Furniture & office equipments	...	5,791	5,411	2,876
Transfer Governmenr Grant (Sale of Publications)	...	3,900	5,260	5,000
Expenditure visit of foreign scientists		...	1,000	...
		33,747	27,215	30,136
		...	—1,511	...
		33,747	25,704	30,136

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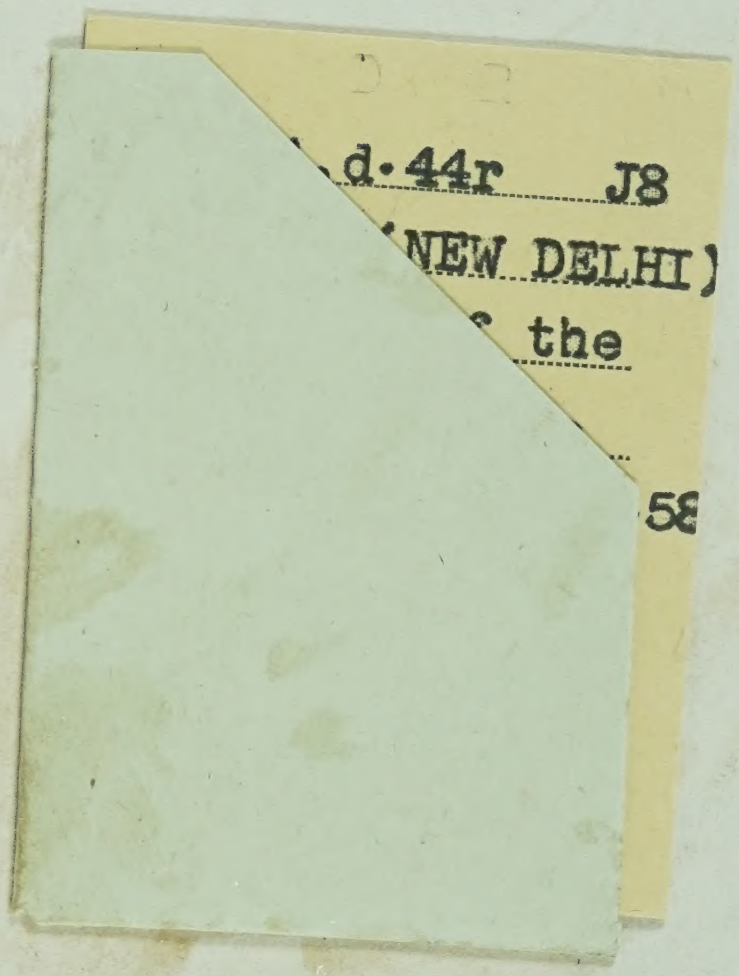
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